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A BINDER
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Tendency of the New Decade

Since the beginning of the World War pharmacists have had thrust upon them experiences the like of which no one living had ever passed through. In many instances, the avenues of trade over which they received their supplies of drugs and medicines were either effectually blocked or so diverted as to upset all usual business methods. The pharmacist and his clerks were taken from their customary places behind the prescription counter to fill the ranks of the country's defenders. As a consequence, the orderly progress of the profession was interrupted and many moves on the chess board of human labor became necessary to meet the contingencies of the war. With the return of peace, the re-shifting of these human elements and the re-adjustments along economic lines appeared and are even now under way.

The influence these recent experiences will exert upon the pharmacy of the near future remains to be determined, but leading spirits among those engaged in the calling are optimistic enough to believe that professional pharmacy hereafter will be in the ascendant, yet further emphasized and supported by the intensive commercial methods of a great reconstruction period. All present legislation points to the further restriction of pharmacy to professional pharmacists. The Federal Narcotic Act and the regulations for the enforcement of the prohibition law make the registered pharmacist the principal pivot around which the enforcement of these laws revolves. Throughout the country educational standards for pharmacists are being advanced. This movement, together with the increasing spread of prerequisite laws, is a further indication of the direction in which pharmacy is tending. Are not these combined movements indicative of the character of the pharmacopoeial decade upon which we are now entering?

The New Narcotic Regulations

The Internal Revenue Department has recently issued in revised form Bulletin No. 35 containing the regulations relating to the importation, manufacture, production, compounding, sale, dispensing, and giving away of any of the narcotics included in the original Harrison Act and the amended sections passed by Congress in 1918. Viewed in their entirety, probably no regulations ever issued by Governmental authority have provided such a multiplicity of detail or minute specialization of the requirements of any law With respect to the object of the Narcotic Act, the regulations impose upon all individuals who come under the provisions of the law the duty of keeping records which practically amounts to a personal history of their connection with the narcotic traffic.

A perusal of the regulations is sufficient to convince anyone of the determination of the Governmental authorities to enforce the law, and the thoroughness with which every section and paragraph has been drafted is evidence of a full comprehension of the ramifications of the traffic in narcotics. In one direction at least, the regulations tend to be helpful to those coming under their application in that the authorities have placed the various articles named in the regulations in juxtaposition with the provisions of law to which they most nearly relate. With this help no manufacturer or dealer, if he devotes the time and attention he should to the study of the regulations, need have any great difficulty in understanding just where he stands with respect to the application of the law to his particular field of operations. Special liability follows the transactions of every one dealing in narcotics, and no one can afford to make a mis-step; so far as the law is concerned, both sins of omission and of commission are fatal—and costly.

In the preparation of prescriptions, the druggist will do well to note two interesting points. The duty of properly preparing prescriptions is upon the practitioner, and he is liable to the penalties provided by the act in case of failure to insert the information required by law. The prescription must be dated as of and signed on the day when issued and must bear the full name and address of the patient and the name, address, and registry number of the practitioner. The druggist who fills the prescription will show on the back thereof the signature and address of the person who secures the drug or preparation prescribed and must preserve the prescription for a period of two years from the date indicated thereon. As heretofore, exempt narcotic preparations may be sold without prescription, providing the same is furnished in good faith for medicinal purposes only.

The points of contact which bear directly upon the operations of the manufacturer and wholesale dealer are specific and mandatory, and one cannot transact business which belongs to the category of the other without incurring liability belonging to the particular class of persons to which such transactions belong. In other words, liability attaches to every person who imports, manufactures, sells, or in any way engages in the traffic of narcotics; he must be registered, must pay one or more of the several special taxes imposed, must prepare inventories, keep records, and in general furnish a complete history of his entire connection with all of the articles covered by the narcotic act. With the possible exception of legislation in pre-prohibition days, no act ever placed upon the statute books is so far-reaching in the effort to prohibit the use of any commodity as that which aims to restrict the traffic in narcotic drugs.

The Crusade Against Tobacco

From Elizabethan days to the present time, the effect of tobacco upon mankind has been a subject of individual invective rarely exceeded in the controversies of any age. Not until recent years, however, has any body of anti-tobacconists been able to present a united organization to promote a planned crusade against the traffic and use of the "weed." That such a movement is now under way seems to be an undisputable fact, for if one is to believe even a small part of what he reads in the newspapers, the opponents to the use of tobacco have become quite formidable and are eager to go to any length to eliminate this product as an article of commerce and to prohibit its use in any form.

Following the successes attained by the prohibition forces in securing legislation against alcoholic liquors as a beverage, the anti-tobacconists have evidently taken heart, for some of them have the courage to predict that the day is not far distant when the cultivation of the tobacco plant will be discontinued, at least in so far as that raised for domestic consumption is concerned. Smoking and chewing, they assert, will become lost accomplishments to be characterized as "useless habits" indulged in by the forbears of future generations. Paradoxical as it may seem, such vaporings are of the stuff of "pipe dreams," if not super-induced from indulgence in the weed! But whether he is a user or not, the average druggist cannot but be an interested observer in this organized opposition to tobacco.

The evidence against tobacco and its effect upon the user is woefully antagonistic, and the conclusions of experts who have studied the subject from every angle are far from uniform. Many scientific investigators, it is true, have agreed that the use of tobacco does have a toxic effect upon the young and that it might be well to prohibit its sale to those who are not well along in their teens. Other protagonists base their opposition solely on the ground that smoking and chewing are such "useless habits," and as indulgence brings the user no tangible returns, he should be prohibited from acquiring or catering to a habit which, they aver, brings no good to the community at large.

It is noticeable that such an opinion was not freely expressed during the progress of the Great War. Rather, there was a settled conviction on the part of every community to do its share in supplying tobacco to the men in our fighting forces, for the majority realized what it meant to the soldier on duty. So far as we know, no nation has ever thought of total prohibition, and as we see it, absolute prohibition of tobacco in our own country is a long way off. It may be that further legislation prohibiting the sale to the young will be enacted, and the tendency to smoke in public places may be further curtailed; but "smoking cars" and "smoking cabins" will continue to be furnished for the convenience of the traveler, to the end of the chapter. It would also appear that the average man will continue to smoke in his own home, if he so elects, in spite of the intolerant anti-tobacconist.

On Educational Standards in Pharmacy*

By PROF. JULIUS W. STURMER, Philadelphia, Pa.

> *As an educator, Professor Sturmer has given much study to the evolution of educational standards, and while he recognizes that genius always has been, and always will be, largely self-taught, it is futile to generalize from single examples. The real object of any educational regulations is to fix the minimum standard and to raise the average—and this for the public good and the public protection, rather for the good of any single individual. This process of reasoning leads him to the only possible conclusion that our advances in pharmaceutical standards have made for real progress, and have conferred real benefits upon the public, all assertions to the contrary notwithstanding.*

WHEN we call to mind the persons of great achievement—in invention, in manufacture, in business, in statesmanship, even in literature—we find that in a number of instances, yes, in an unexpectedly large number of instances, success was attained despite the handicaps of an education seemingly meager, or irregular, or unbalanced. In our own communities and in our own circle of acquaintances, the most useful and most successful are not invariably and without exception the persons with the most extensive schooling. "Who is who?" is enriched with the names of many a celebrity who could not have qualified by certificate for entrance to college.

And when we extend our inquiry into the past, and marshal in review the names of the famous personages in our school histories, how formidable and imposing becomes this list of the eminently great, whose education, from the academic viewpoint, had been left unfinished—Benjamin Franklin, the foremost American scientist of his time; George Washington, the man of conspicuous wisdom, of sound judgment, and of consummate military skill. Abraham Lincoln, whose statesmanship and marvelous artistry in phrasing deep thoughts which touch the hearts of men, has established his title to a place in the Hall of Fame! Surely in the presence of these truly great, and of many others which might be enumerated, the schoolmaster stands humbly, with uncovered and bowed head, realizing the seeming insignificance of his share in the great achievements of genius.

Shakespeare Could not Have Qualified

But Shakespeare, who did not have the advantages of extensive schooling and who could not on the basis of his school work, have qualified for pharmacy in Pennsylvania, I fancy, might have expressed himself in this wise: "Yes, all the world's a school, and we are students, and must needs con our lessons, learning facts and fancies, and science and philosophy and wisdom—serving as our own tutors through the remainder of the seven ages of man, after the pedagogue hath freed us to pursue the curriculum of our own devising."

Who would question that Franklin and Washington and Lincoln, and Shakespeare himself, were men of great scholarly attainments? Certainly it is mere sophistry to cite their names to give weight to arguments belittling the value of education. The fact is, these men never did leave school. It was simply that they became their own school masters, and their own taskmasters rather early in life. And the same may be said of some of our contemporaries who have achieved success.

Lincoln qualified for the bar at a time when the requirements were much lower than at present. But those who contend that Lincoln could not have qualified under present-day requirements, are wrong, and are wrong because they fail to take into account the determination, fixedness of purpose, and resourcefulness of this great man.

And in like manner those who contend that the present-day requirements for pharmacy would have excluded some of the most brilliant votaries of this profession, are basing their reasoning upon premises which are absurd, for these men, under modern conditions, would have had no difficulty in acquiring the secondary education which is now a prerequisite to a pharmacy course.

Genius will Always be Self-Taught

Educational standards are of comparatively recent date. So is universal education itself. We need not go back more than a comparatively few generations to find illiteracy so general that he who could read and write was conspicuous because of these attainments. And yet, some of our greatest scholars developed under conditions so unpropitious. And there are those who mention these illustrious names of the past, in attempting to prove the unwisdom or futility of compulsory education. Even in pharmacy, these Bolshevistic attacks on education are not unknown. Men point to the great pharmacists of the past who attained to conspicuous success, and ask: "Has the modern pharmacy college with its facilities and its ever-rising entrance requirements, produced any pharmacist greater than the famous apothecaries of the time of our grandfathers?" Again, I say: "In the presence of genius, the schoolmaster stands humbly and with bowed head, for genius always has been, and always will be, largely self-taught."

I would, however, point out the unfairness of these invidious arguments against educational standards. Granted, that the great men of our generation are no greater than the great men of the past. Granted that our greatest pharmacists are no greater than Procter or Parrish or Squibb or Rice. But is it not true that the purpose of educational regulations is to fix a *minimum* standard and to raise the *average*—and this for the public good and the public protection, rather than for the good of any single individual? Is it not true that our compulsory education laws, even though they may not have developed greater scholars than the great scholars of the past have in very fact made democracy possible, and established a bulwark against which the waves of Russian Bolshevism will pound in vain?

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*Read before the recent meeting of the Pennsylvania Pharmaceutical Association.

Educational Standards Make for Progress

Is it not true that the educational standards pertaining to medicine, while they may add nothing to the greatness of the outstanding geniuses in medicine and surgery, will immeasurably raise the average efficiency, and make charlatanry almost impossible? Is it not true that our present-day pharmaceutical standards, with our State board examinations, our college pre-requisite regulations, our general educational requirements, are providing the public with pharmaceutical workers whose general average of efficiency is much above that of the pharmaceutical workers of the past? Is it not true that the least capable of the graduates of today is vastly better equipped than the least capable of a generation ago? Is it not true that our pharmaceutical educational standards are eliminating the pretender, just as medical standards are eliminating the charlatan? So we may truly say that our advances in pharmaceutical educational standards *have* made for real progress, and *have* conferred real benefits upon the public, all assertions to the contrary notwithstanding.

And when the Pennsylvania colleges of pharmacy make operative in 1923 the four-year high school requirement—another advance—this also will constitute real progress. Not that we may expect it to improve the quality of our best students and graduates; but our poorest will be not quite so poor, and our average will be on a higher plane. And are not these the standards by which we must adjudge our results?

Education More than Imparting Knowledge

To be sure, true education is something more than the mere imparting of knowledge; it must involve inspiration and the inculcation of moral and ethical principles. It must develop loyalty, courage, leadership, justice, kindliness, helpfulness, the spirit of service, and wisdom as well as learning. Hence, even with the best of college training, and this raised to true collegiate grade by the four-year entrance requirement, the advent of commencement day will still find us, as in the years past, unable to guage the results of our year's labors, for the examination grades are but an imperfect record of a student's development. And we shall continue to see those seeming anomalies which have perplexed us in the past: a student with high examination records failing in practical life to attain to the success anticipated for him, and the mediocre student, after graduation, outdistancing his more brilliant classmate. We shall see, here and there, the graduate of a fameless institution, achieve fame and reflect it upon his alma mater, and a graduate of an illustrious faculty, make a failure in life. Indeed, we may see the self-taught man surpass immeasurably the product of the most famous universities.

Futile to Generalize from Single Exceptions

But when we stop to think of the many factors involved in personality, and their endless variations, we can see at once the futility of generalization from single examples. And when we do attack these problems scientifically, what do we find? When, in place of dealing with single examples, we deal with large groups, so as to eliminate the factors on which no data are available—when, in short, we deal with humanity statistically—the surprising results disappear from view, and only the expected happens. We find that the school-taught outdistance the self-taught, that the graduates of great colleges are in the main more successful than the graduates of the colleges of lower grade. That those who have completed a high school course, earn more, and perform a greater service to their fellow men, than those who interrupted their high school education and who graduated into the "University of Hard Knocks" prematurely. In short, we find that, regardless of what single examples might show, nothing—no investment of money and time—has brought forth results more generously, and, taking it by and large, with more certainty, than has education.

So we may feel assured that the requirement of a full high school course, as a prerequisite to pharmacy, will not only be to the public interest and make for the advancement of the calling, but will actually benefit the young men and women who will be under necessity to conform to the new standards.

Statistics prove it.

DISCOVERS MATTER TRANSMUTATION?

Despatches from Paris to the New York daily papers gave the outline of an article in "Le Matin" which announced the discovery of transmutation of matter by Sir Ernest Rutherford, director of physical laboratories at the University of Manchester, England. The discovery means the possibility of transmuting base metals into gold.

Charles Nordman, a French astronomer, says:

"It is now known that an atom of iron or gold is in an infinitely small way analogous to the sun and some planets. The atom is formed by the central astral body, composed of small particles loaded with positive electricity, round which revolve at prodigious speed small planets, so to speak, loaded with negative electricity, which are known as 'electrons.'

"The difference between an iron and a gold atom is solely in the number of electrons and positive particles contained in each.

"When an atom contains a great number of electrons, one of these infinitesimal planets, for reasons still unknown, suddenly ceases to be attracted by its atomic sun and is projected into space.

"These electrons lost to the atom are known as Beta (B) rays. Radium comes from another metal, uranium, which is transformed into radium after its atom has expelled three electrons. After five further and similar atomic explosions, radium becomes lead.

"This is transmutation; but natural transmutation. Heretofore, men have been unable to hasten or retard this transformation, but now Rutherford has bridged the gulf."

A Prescription Clinic

Some Difficulties and Methods of Their Solution

By CHARLES H. LaWALL and IVOR GRIFFITH

PRESCRIPTION compounding in the modern sense calls for the application of a high degree of pharmaceutical and chemical knowledge and a persistent attention to detail that can be worked out only by practical experimentation. Prescription difficulties of one kind or another are to be met with in every pharmacy, and representative of some of these which have been the subject of some discussion are the following, the solution of which was undertaken by the authors and presented in the form of a paper read before the Section on Practical Pharmacy and Dispensing of the American Pharmaceutical Association at its last meeting:

(1)

Sodium salicylate	2 drams
Sodium bromide	1½ drams
Caffeine citrate	36 grains
Peppermint water	1½ fl. ounces
Syrup	2 fl. ounces

At a recent meeting of the Pittsburg Branch, A.Ph.A., the foregoing prescription was discussed, and it was said that it was twice prepared by different dispensers and each time exhibited a brown precipitate. According to the journal in which the article appeared suggestion was made that the precipitate was probably due to some impurity present in the sodium salicylate or to a trace of iron due to coming in contact with the spatula (?), used in compounding. These were mere conjectures, however, and the filled prescription was not exhibited.

Filling the prescription as it stands, with sodium salicylate U. S. P., and without a *spatula* (!!!), resulted in the unsightly mixture shown herewith and, no matter in what order the ingredients were mixed, the same reaction was in evidence. The precipitate is salicylic acid, from its combination with sodium. The alkaloidal caffeine, goes into solution. The incompatibility is corrected by using caffeine (alkaloid) 18 grains instead of the 36 grains of the caffeine citrate.

(2)

Thymol iodide	1 dram
Zinc paste (Lassar) (without salicylic acid)	8 drams

A student brought this prescription in with the statement that it had resulted in a dark ointment compared with the product dispensed by another pharmacy. We did not find this to be the case when the prescription was filled with U.S.P. thymol iodide, but found the solution of the problem by compounding the same prescription with a poor grade of thymol iodide, which an examination proved to contain a trace of free iodine. The modified Lassar's paste is stiffened with starch and the latter reacts with the free iodine and the latter thymol iodide gave rise to the dark color of the ointment. This is simply another argument in favor of using nothing but high-grade chemicals and from reputable manufacturers. It recalls to our mind the dilemma of a pharmacist who purchased a stock of thymol iodide from a pedlar and found it only partially soluble in alkali solution. Examination of it under the microscope demonstrated the presence of a considerable quantity of lycopodium, with which it had been sophisticated. One experience of this type usually cures a pedlar patron.

(3)

Solution of hydrogen dioxide,
Glycerin, of each sufficient to make 4 fluidounces

We referred in our paper last year to the fact that it had been stated in several drug journals that this prescription, on standing, developed oxalic and tartaric acids, through oxidation of the glycerin by the dioxide. We have failed to find any evidence at all of oxalic acid or tartaric acid in the prescription after a period of one year. It was originally filled with an acetanilid-free dioxide solution and C.P. glycerin. The experiment was later made with dioxide preserved with acetanilid, but the results were exactly the same. One fact clearly demonstrated by occasional assaying of this prescription was the preservative effect of the glycerin on the peroxide. Prof. E. A. Ruddiman, in his authoritative work on *Incompatibilities* carefully states that "hydrogen dioxide is said to oxidize glycerin to glyceric, oxalic and tartaric acids" (IV. Edition, page 200).

In the face of the foregoing evidence, we are inclined to say, that while this may be true with greater concentration and higher temperature, it is not true of mixtures of peroxide and glycerin under prescription conditions.

(4)

Heavy magnesium oxide	10 grains
Phenyl salicylate	
Acetyl salicylic acid, of each	5 grains

"In the presence of moisture, and this is furnished by the acetyl salicylic acid crystals, calcined magnesia reacts with the acetyl salicylic acid with the production of magnesium acetyl salicylate. Further chemical interaction takes place with the possible production of magnesium salicylate and magnesium acetate. There will also be an exchange of radicals of the salol and magnesium oxide with the formation of more magnesium salicylate and pure phenol or magnesium phenolate." The foregoing is a statement which recently appeared in the *Journal of the American Medical Association.*

In order to test its correctness, the prescription was compounded under ordinary conditions with pure chemicals and dispensed in parchment papers. One paper was left open to atmospheric contact for one week, but there was no apparent change in the physical character of the power, nor was there any appreciable difference in its odor. The magnesium oxide was apparently unaltered (at least not to a great extent) for the alcohol-insoluble portion of the powder at the end of a week was practically the identical weight of the magnesium iodide originally used. We are not prepared to state that no changes will take place, in the presence of much moisture, and in time, but think that under ordinary conditions and with precautions to exclude moisture the prescription is dispensable, and would be all used up before any marked changes occurred.

(5)

Iodine	24 grains
Methyl salicylate	2 drams
Anhydrous lanolin	4 drams
Cotton-seed oil	6 fl. ounces

The iodine was reduced to a fine powder and the melted anhydrous wool fat added to it. To this was added, with constant trituration, the oil slightly warmed, and finally, the methyl salicylate with shaking. A qualitative test performed on this mixture, two days after its compounding, resulted in the discovery that iodine had been completely absorbed and was tightly held in organic combination with the oils. It is questionable, therefore, whether the physician gets the action desired from the iodine prescribed.

(6)

Argyrol	40 grains
Potassium iodide	20 grains
Iodine	20 grains
Glycerin	6 grains
Water, to make	1 fl. ounce

(Year Book, 1916, p. 275.)

(7)

Bismuth subsalicylate	2 drams
Sodium bicarbonate	4 drams
Cerium oxalate	30 grains
Elixir of orange, to make	3 fl. ounces

To all appearances there is no difficulty about filling this prescription. When it leaves the counter it is a harmless looking, white mixture, and a shake well label is affixed in a prominent place. In about fifteen minutes, however, trouble starts through evolution of copious amounts of carbon dioxide and the reaction is violent enough to burst the bottle or push out the cork and spill the contents. This happens even when the bismuth salt contains no free salicylic acid. The presumption is that the varying and unstable bismuth compound is dissociated and the liberated salicylic acid reacts with the sodium bicarbonate with the production of sodium salicylate and carbon dioxide. The cerium oxalate apparently plays no part at all in the reaction.

(8)

Resorcinol	20 grains
Zinc oxide	4 drams
Boric acid	20 grains
Olive oil	2 fl. ounces
Solution of calcium hydroxide	6 fl. ounces

This looks like a formidable prescription at first glance, but should cause no difficulty in the hands of a thoughtful compounder. There are several ways of incorrectly compounding it. One is to dissolve the boric acid and resorcinol in the lime water, add the zinc oxide and finally the olive oil. A better way to fill it and one where no difficulty is encountered, is to dissolve the resorcinol in the lime water. The olive oil is then added and the mixture thoroughly shaken. Finally the boric acid is incorporated by rubbing it up in a mortar with a little of the mixture, and then transferring into the remainder of the prescription. The result is a smooth mixture that does not readily separate out.

(9)

Corrosive mercuric chloride	1 grain
Solution of potassium arsenite	2 fl. drams
Syrup	1 fl. ounce
Peppermint water, to make	3 fl. ounces

No matter how this prescription is compounded, trouble will be encountered. The arsenite in the presence of the excess of carbonate in the Fowler's solution brings about a change in which the corrosive sublimate is converted partly into metallic mercury with the change, at the same time, of the arsenite with hydrochloric acid; rendering it slightly acid will retard the change. The doctor would do better by using solution of sodium arsenate in equivalent amount.

(10)

Iodoform	
Bismuth subnitrate	
Mild mercurous chloride, of each	2 drams

Use as dusting powder.

This prescription was filled by a Philadelphia pharmacist and dispensed in a white vial topped with celluloid. In a day or so, the patient returned the vial requesting an explanation for the chameleon-like tendency of the powder to change its color. When dispensed the powder was a light canary-yellow. After being placed in the sunlight for a while the actinic rays get in their work by releasing some of the iodine from its combination and this iodine and calomel make friends with the ultimate production of the red iodide of mercury Oddly enough, on shaking the vial well, the red color apparently fades, although in reality it only lessens in its intensity of tint by being neutralized by the heavy yellow of the rest of the powder on being shaken with it. The red color reappears on the side exposed to the light as often as it may be remixed and exposed again.

China's Trade in Opium

Two-thirds of all the opium formerly raised in China came from the province of Szechuan. The total annual production was estimated at 230,000 piculs or about 45,000,000 pounds.

When opium-smoking was at its height in China, only about one-seventh of the opium consumed was imported and that came from India; China actually exported to Indo-China nearly 5,000 piculs annually. The large quantities of Szechuan opium exported into other parts of China set up a lively business along the Yangtze River. Reports of the traffic so far as they are given in the official record, for much opium was smuggled back and forth even prior to the anti-opium law of 1910 (by which opium consumption was to be reduced by one-tenth annually until total suppression was attained in 1918), show with what amazing suddenness Szechuan abandoned the trade.

In frontier sections, however, inaccessible to the authorities poppy is still secretly cultivated according to the reports of disinterested travelers.

A Famous Drug-Eating Insect

By L. E. SAYRE, Dean, School of Pharmacy, University of Kansas

THE insect figured below is one that feeds voraciously on drugs These insects grow very rapidly. After two or three weeks in the pupa state they change into the perfect beetle. They have strong biting jaws and their whole life is passed in the can or jar containing the drug. This insect has rather an interesting history, especially significant to New York City. The writer ran across a clipping in his collection from one of the New York papers, published in about 1887, which reads as follows:

IS IT AN OMEN?

WALL STREET BESET BY MILLIONS ON MILLIONS

Of the "Death Watch" which Taps, Taps, Taps!

HIDDEN IN THE WALLS.

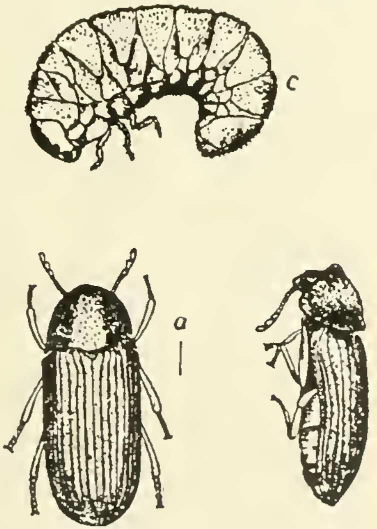
When Death is About to Visit the Household.

A Superstition Many Centuries Old.

New York, June 1.—Wall Street is literally overrun with curious looking insects which have literally taken possession of busy down-town blocks. The defenseless merchants have raised a cry for help.

Excited citizens have appeared daily for two weeks at the Board of Health with reports of the new bug. Each has placed before the authorities a sample specimen of the insect invader, tightly corked in a bottle. Every complainant has hailed from some office in the South Street block bounded by Wall and Pine Streets. Their stories and sample bugs agreed to a nicety.

The bugs appeared six weeks ago. They were small, brown fellows, no bigger than so many grains of wheat. They appeared as if by magic on the desks, among the papers and upon the walls. In a week the minute invaders, like the frogs and the locusts in ancient Egypt, literally filled the block. They covered the floors of stores and offices, carpeted the sidewalk from Wall Street to Pine Street, fell in showers from the windows upon the heads of pedestrians and romped all over the disgusted tenants. They seemed to fatten on bug-exterminating powders and thrived equally well in fire or water.



Sitodrepa panicea Linné. The common drug-eating insect. a, Dorsal view of adult beetle. b, side view of adult beetle. c, Larva.—(Smith.)

The exasperated tenants found that a regular procession of bugs poured from Charles Griffen's storage warehouse at . . . . It seems that about two years ago Stallman & Fulton, drug importers, 10 Gold Street, invested heavily in coriander seed. This flavoring seed is employed largely in the manufacture of sausage meat, and also lends its relish to certain popular tonics and liqueurs. One of the many shipments received by the firm from Bombay was stored away on the third floor of Mr. Griffen's warehouse.

Time passed, bringing a sharp fall in the price of coriander seed and robbing the two hundred bags in Mr. Griffen's care of their importance. So they have remained in the gloom and quiet of their South Street prison, hatching a revenge for the neglect of years.

About two months ago, the new bug made his first appearance in Mr. Griffen's private office. It was ignored at first. Within a week the big storehouse, from cellar to roof, was alive with the frisky invaders. Investigation traced them directly to those two hundred unconsidered bags from distant Bombay. Every coriander seed, no larger than a French pea, was found to have launched from five to ten bugs upon the community.

The health officers took a look at this honeycombed and ruined seed, gazed helplessly at the invading millions and sent a peremptory order to remove the seed within four days.

That was on Monday. A reporter visited the afflicted block yesterday and listened to harrowing tales from solid men of business.

Standing on a carpet of insects, with a dozen of them on his hat and a multitude playing tag over his coat tails, was Mr. Schofield, Griffen's chief clerk. E. J. Luyley, who conducts a clothing and furnishing store at 62 South Street, pointed ruefully to his bug-infested stock and swore that another week of this sort of thing would land him in lunacy and bankruptcy. A. & S. Weiss, cigar dealers at No. 65, told the same story and showed how the coriander invaders had taken possession of the shop, burrowing in hundreds to the bottom of every cigar box.

Ginger root attacked by **Sitodrepa panicea** Linné.—(Original.)—From Sayre's Materia Medica

F. C. Crosby, bookkeeper for Swan & Son, shipping merchants, on the second floor of No. 66, insists that the invaders bite with the viciousness of a Jersey mosquito. "I have had to use ointment every day for weeks," he declared.

The coriander seed still remains at the warehouse, but the owners will remove it today. It will be burned.

The World today says:

"If you are feeling excited over the

big invasion, take hope. The East India visitor is an old friend, after all. It is the sitodrepa panicea. If you don't recall it by that name, don't be discouraged. Put your ear on the ground and you will hear a low rumbling of many voices from South Street near the Mallory line pier. It is a chorus of bugs, and each bug in this instance is an old but ominous entomological chum—the 'death watch.'

"That is the expert opinion of Prof. . . . . Bentenmuller, the entomologist at the American Museum of Natural History. Prof. Bentenmuller, was . . . . gazing into the yawning depths of a chinch bug's eyes when a World reporter dropped a delegation from South Street on his desk.

"'Wow! What have we here?' said he. 'Followers of the Great Mahatma, all the way from India.'

"At first glance this theory seemed probable, for each bug was shedding a fine ray of light. One of them sprinted at once to a corner where two chinch bugs were resting from an hour of posing under a microscope. Instantly there was a fight. The East Indian rushed the first chinch bug to the edge of a blotting pad. There he was met by the chinch bug's big brother, and in a flash there was a vacancy in a large and promising family.

"'Aha!' said the entomologist, 'they are not from East India, after all.'

"It appears the East Indian bugs are not fighters, but Prof. Bentenmuller had another reason for his belief. The other bug had unconsciously strolled on the glass of the microscope.

"'Look!' said the professor, after the bug's energy had been cooled by an anaesthetic and it lay helpless and shimmering in the sunlight. Its wings under the microscope glowed in thousands of lines and its black and hard head was a monument of determination. The lines about its mouth denoted extreme will power, the forehead was low and retreating, the eyes were small and set far apart in the head.

"'It is the sitodrepa panicea,' said the entomologist, without a tremor in his voice.

"'The what?'

"'The "death watch,"' he added with an amiable smile.

"The 'death watch' belongs to the terrible beetle family, though it is by no means as terrifying as its relatives. When full grown and possessed of well developed lung power, it chirps a fine, clear, wonderful song which is taken by the superstitious as an omen of death."

FRENCH PROCESS FOR MAKING AMMONIA

Prof. George Claudi, of Paris, read a paper before the French Academy of Science last week in which he said he would demonstrate the practical use of pressure above 1,000 atmospheres in the production of synthetic ammonia. Professor Claudi told the members that in the near future he would show them a small installation, capable of producing 200 liters (212 quarts) of liquid ammonia daily. He said he was able to get twenty times as much ammonia from the same amount of primary matter as was produced by the German chemist Haber by the latter's method.

The Japanese Government is experimenting at its agricultural stations in raising about 100 varieties of medicinal herbs, including licorice, rhubarb, iris, chamomile, lavender, fennel and saffron.

Sweet Substitute for Sugar

MALT sugar sirup is a brand new sweet which has arrived on a commercial scale at the psychological moment to relieve the sugar shortage, say the specialists of the Bureau of Chemistry, United States Department of Agriculture, who have investigated various substitutes for sugar. In addition to being a sweet, malt sugar sirup has a delicious flavor somewhat resembling that of honey, which adds much to its palatability and value as a sugar substitute.

While malt sugar has long been known to chemists, its production on a commercial scale is only beginning. Two factors have stimulated its production recently. The shortage of sugar has developed a market for it, and the recent prohibition law has made available both the raw material and the machinery needed for its manufacture. Malt sugar sirup is made from the same grains as beer and may be made from corn or potatoes or any plant containing starch. Barley, which was used until recently in the manufacture of beer, can be used now to produce malt sugar sirup.

Malt sugar sirup looks very much like maple sirup. It can be used for everything that cane sugar is used for. While its use on the table may not be quite as convenient as sugar, it is a most excellent substitute for table use when sugar is not to be had, as it not only provides sweetness but is equal to sugar in food value. For cooking and baking purposes and for making candy it is not only equal to sugar in convenience and food value, but is superior for some uses, because it will not so readily crystallize.

Malt sugar sirup is now being sold in large quantities to commercial bakeries and candy and soft drink manufacturers, who use it in place of sugar, although it is not recommended for general fountain use, as its peculiar but not at all unpleasant taste naturally might affect the flavor of some of the more delicate drinks and dishes. The wholesale price as quoted in recent advertisements in trade papers and elsewhere is from 7 to 9 cents per pound in barrel lots. Many retail grocers do not yet handle it, because there has been little demand for it on the part of housewives. Grocers can now obtain it and no doubt will be glad to do so as the demand for it increases. It can be used for every purpose for which sugar is used.

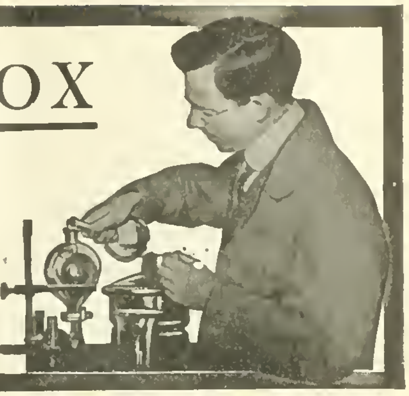
Although malt sugar sirup is being called upon, so far as household use is concerned, merely as a pinch hitter in the present emergency, the specialists expect that it will make such a batting average that it will hereafter have a regular place in the batting order. This is a case where the substitute makes so good that the regular, whose place it takes, may have to warm the bench. While it is not likely that this new sweet will replace sugar for table use in normal times, it undoubtedly will make a place for itself in the household as it is doing in the manufacture of food products. It is an excellent, wholesome sirup, and on account of its delicious flavor, is superior to sugar for some purposes in cooking and baking.

THE QUESTION BOX

The "How to Do It" Department

CONDUCTED BY PHARMACEUTICAL EXPERTS

For the benefit of ERA Subscribers



Masking the Odor of Vinegar

(J. C. McF.)—Vinegar always carries an odor distinctive of the source from which it is obtained, as cider, wine, etc. Any attempt to remove this odor without destroying the identity or character of the vinegar is therefore scarcely possible. Even pure acetic acid from whatever source has a characteristic pungent odor which is as much an accompaniment of the acid as is its property of turning blue litmus paper red or of reacting with various alkali carbonates. On general principles, the odor cannot be destroyed without destroying one of the characteristics of vinegar. It is possible, however, that the odor of the vinegar might be masked by combining it with certain aromatic substances or essential oils in a manner similar to the method followed in making the aromatic vinegar of the National Formulary, but as you give us no information of the combination in which the vinegar is to be used, we can scarcely advise you on this procedure. However, a reference to any of the printed formulas for the preparation of the so-called "toilet vinegars" will suggest numerous aromatics which might be used as masking agents, providing the product you are trying to make will admit of employment. Oils of bergamot, cinnamon, cloves, lavender, neroli, orange and rosemary and various other odoriferous substances are among the products suggested.

Products of the Wintergreen Plant

(R. E. W.)—"We have been referred to you by the New York Board of Pharmacy for information as to the commercial products of the wintergreen plant. Is there any value to these products, and if so, where might one find a market?"

In making reply we assume that in using the name "wintergreen," you refer to the Gaultheria procumbens, and not to other plants known in various localities by the name "wintergreen." The leaves of gaultheria, which possess stimulant, aromatic and astringent properties, are occasionally met with in drug stores in compressed ounce packages for retailing purposes, having a somewhat limited sale. We do not know what drug collectors are willing to pay for marketable leaves, but jobbing prices to retail druggists at the present time are quoted at about 35 cents per pound with no important demand. Another product of the wintergreen (gaultheria) plant is the scarlet, berry-like, inferior fruit, about as large as a black currant, which is gathered and eaten under the name of "checkerberries"; these are occasionally found in the market in some localities, although quoted prices are unobtainable here. Undoubtedly the oil obtained from gaultheria leaves, generally designated in the trade as "true oil of wintergreen," is the most important product from the plant. The oil is prepared by distillation and subsequent rectification, if necessary, by steam distillation. It is recognized in the Pharmacopoeia under the title "Methyl Salicylate," this title also covering the "oil of sweet birch" and "synthetic methyl salicylate," the three products being identical in chemical composition and therapeutic properties. In each instance, however, the Pharmacopoeia requires that the label shall state the origin of the oil. The relative commercial values of the three products are indicated by the following original package prices quoted within the past few weeks: Oil of wintergreen (sweet birch), $6 to $6.15; oil of wintergreen (genuine gaultheria), $10.50 to $10.75; oil of wintergreen (synthetic), 75 cents, each per pound respectively. In medicine these oils are considerably employed both internally and externally, in the treatment of rheumatism, and for flavoring purposes, especially in the manufacture of tooth powders, liquid dentifrices, chewing gum, etc. A list of possible buyers of the leaves and oil has been sent to you by mail.

Effervescing Tablets

(M. H. W. Co.)—We cannot recall any formula that has been printed or recommended for making "simple effervescent tablets," although there are various formulas for making tablets which effervesce when dropped into water, but all of them are usually designed with particular reference to their medicinal uses rather than as simple tablets for producing effervescence. The basis of almost all effervescent preparations is usually sodium bicarbonate and citric or tartaric acid, and sugar. When the mixture, compressed in tablet form or not, is thrown into water, the acid reacts with the bicarbonate (or carbonate, if a carbonate has been used) and liberates the carbonic acid gas, which causes the effervescence. In most of the formulas, the bicarbonate and acid are used in nearly molecular proportions, that is, about 83.85 parts of sodium bicarbonate to 70 parts of citric acid, or 75 parts of tartaric acid; with these substances a certain quantity of sugar, and sometimes a little powdered acacia, or other substance is incorporated as filling. Using these general facts as a starting point, something like the following formula might be tried for producing a simple effervescent tablet which would have very little, if any, medicinal value:

Sodium bicarbonate	600 grains
Tartaric acid	540 grains
Sugar	560 grains

Separately powder and sift, then thoroughly mix; place the mixed powders in a suitable dish, and then gradually add alcohol in small quantities at a time and with constant stirring until the mass coheres into small granular lumps. Do not use enough alcohol to make a paste, as the granules are formed entirely by the cohesiveness of the moist mass, under the influence of kneading. The resulting granulated mixture may be readily dried by spreading it upon a tray or clean paper, and placing in a current of air. The mass can then be compressed into tablets of the required size by means of any standard tablet machine.

In Great Britain an effervescent tablet used as a "thirst quencher" is made by compressing in tablet form the well-known "lemon kali," a mixture of sodium bicarbonate, tartaric acid and sugar flavored with oil of lemon, considerably used for making an imitation lemonade. According to "Pharmaceutical Formulas," a similar article, intended for putting into a tumbler of water, is made by mixing 8 ounces of icing sugar with 1 ounce each of sodium bicarbonate and tartaric acid and 10 drops of oil of lemon; make this powder into a paste with a sufficiency of rectified spirit, roll cut the mass to a thickness of one-fourth inch upon paraffin paper, divide into squares and dry at a gentle heat. Other flavors than lemon may be used.

Preparation of Nuclein

(Subscriber)—According to the British Pharmaceutical Codex, the term "nuclein" is commonly used as a synonym of nucleic acid, but it is more correctly applied to the albumin nucleinates intermediate between nucleic acid and nucleo-protein. Nucleic acid, or nuclein, as used in medicine, is prepared from yeast, and consists chiefly of the true nucleic acid of yeast, with a proportion of albuminate (metaprotein) and carbohydrate. There are found in the market a considerable number of proprietary preparations said to contain nuclein, but in the main, the details of their manufacture have not been made public. An English method for the preparation of nucleic acid is based on the principle of boiling the material with alcohol and extracting the residue with warm 10 per cent solution of sodium chloride. Protein-free nucleic acid is precipitated on addition of hydrochloric acid. If the material contains starch, this is removed by fermentation with diastase prior to the sodium chloride extraction. The details of the method are thus given;

Thirty pounds of freshly pressed yeast are treated with a large excess of 95 per cent alcohol, allowed to stand 24 hours, filtered in a Buchner funnel and dried in air. The air-dried material, in successive portions of 1000 grams, is boiled for 2 hours with 95 per cent alcohol, filtered, pressed and dried in a current of air at 370° C. It is then ground to powder; 1000 grams of this material are then extracted with 10 liters of 10 per cent solution of sodium chloride at 68° to 80° C., the extraction being continued with frequent stirring and intermittent heating to 60° to 80° C. for four or five days. The residue is separated by pouring through muslin and pressed, the turbid extract being filtered clear through paper. After adding 90 cc. of hydrochloric acid (1 HCl : 1 H_2O), the solution is stirred, nucleic acid separating out. After allowing the mixture to stand for 2 hours, the liquid is siphoned off, and the residue washed with 50 per cent alcohol till free from chlorine. The residue is left standing over night and finally washed with absolute alcohol and ether, the yield, it is stated, being about 15 grams. Nuclein is frequently used in the crude form as found in various foods, yeast, etc.

Gray Ammonium Sulphate

(M. E. M.)—The term "gray" is applied to ammonium sulphate to designate a commercial grade in contradistinction to the crude salt which is dark brown in color. Its chief use is as a base for making other ammonium salts, and in the impure form for making fertilizers. It is the principal source of ammonia gas used in chemical manufacturing, refrigeration, etc., for making ammonia alum, and for fire-proofing fabrics. The generally accepted standards require that pure ammonium sulphate should contain 21.21 per cent of N, and should leave no residue on ignition. The commercial salt should contain at least 19 per cent N, but usually contains 20 to 21 per cent. For methods of valuation, see almost any standard work on technical analysis.

Grades of Antimony Sulphide

(C. E. W.)—The so-called "antimony red" occurs in two main varieties, orange and crimson. The latter is prepared by boiling antimony trichloride with thiosulphate solutions; chemically it is a trisulphide of antimony containing a few per cent of oxygen, probably in the form of oxysulphide. Tints ranging from crimson through scarlet to orange are obtained by varying the conditions of precipitation, or by mixing orange and crimson sulphides. The orange variety is that which yields the characteristic color associated in the public mind with red rubber goods. It is prepared by boiling stibnite, a natural trisulphide of antimony, Sb_2S_3, a black crystalline mass, frequently called "crude antimony," with polysulphide solutions and precipitating the resulting sulphantimonate solutions with mineral acids. The essential constituent is an antimony sulphide or mixture of sulphides in which the combined sulphur fluctuates between 3 and 3.6 atoms to 2 atoms of antimony.

The orange antimony pigment falls into two subdivisions, according as it has been co-precipitated with hydrated calcium sulphate ("plastered antimony") or not. The plastered variety is cheaper to make and although comparatively poor in antimony, is not so deficient in pigmentary power as might be expected. Rubber men state that this is the most popular form of antimony red. Authorities state that it usually contains from 30 to 50 per cent or more of calcium sulphate. In practice the artificial trisulphide ("sulphuret") is obtained as an orange-red, finely divided powder by passing hydrogen sulphide into a slightly acidified solution of tartar emetic, or into a solution of antimony trichloride containing tartaric acid. If the black modification is melted and then suddenly cooled by pouring the molten mass into cold water, it changes to a red variety. On the other hand, if the red is heated at 200° C., it changes to the black modifications.

Antimony pentasulphide, Sb_2S_5, known in the trade as "golden sulphuret of antimony," is made by decomposing sodium sulphantimonate, Na_3SbS_4 (Schlippe's salt) with dilute sulphuric acid. Schlippe's salt is prepared by boiling a mixture of antimony trisulphide and sulphur with sodium hydroxide solution and filtering off the insoluble sodium metaantimonate, $NaSbO_3$, which is produced at the same time. Antimony pentasulphide is an odorless and tasteless powder of a dark-orange red color. It is insoluble in water, alcohol or ether, but easily dissolves in alkalies and alkali sulphide. It is used to a slight extent in medicine, but is chiefly employed, as stated above, for coloring vulcanized rubber. A study of the formation and composition of sulphuret of antimony shows that the relative proportions of oxide, sulphur and antimonate vary with the conditions of the reaction, such as temperature, concentration, etc.

As employed in the trade, the various commercial designations and their composition are about as follows: Golden No. 1 (golden red), containing about 40 per cent calcium sulphate and 15-17 per cent free sulphur; Golden No. 2 (golden yellow), containing 60 per cent calcium sulphate and 15-17 per cent free sulphur; Crimson F (crimson red), containing 32 per cent calcium sulphate and 15-17 per cent free sulphur; Vermilion red (natural red), free from lime and containing 5 per cent free sulphur, and Vermilion (intense red), free from lime, and containing 15-17 per cent free sulphur.

Dextrine Paste

(J.B.D.)—There are any number of formulas for the preparation of dextrine paste, but you have not indicated the intended use of the paste, a matter of considerable importance in endeavoring to determine the particular combination, consistency, etc., of the finished product. However, here are several formulas;

(1)

Borax	60 parts
Dextrine, light yellow	480 parts
Glucose	50 parts
Water	420 parts

By the aid of heat, dissolve the borax in the water and add the dextrine and glucose. Continue the heat, but do not let the mixture boil, and stir constantly until a homogeneous solution is obtained, from time to time renewing the water lost by evaporation with hot water. Finally, bring up to full weight (1000 parts) by the addition of hot water, then strain through flannel. Prepared in this manner the paste remains bright and clear for a long time. It has strong adhesive properties and dries very rapidly. If care is not taken to keep the cooking temperature below the boiling point of water, the paste is apt to become brown and to be very brittle on drying.

(2)

Pour over 1000 parts of dextrine 450 parts of soft water and stir the mixture for ten minutes. After the dextrine has absorbed the water, put the mixture over the fire, or, preferably, on a waterbath, and heat, with lively stirring for five minutes, or until it forms a milk-white liquid, on the surface of which little bubbles begin to form, and the liquid is apparently beginning to boil. Do not allow it to come to a boil. Remove from the fire and set in a bucket of cold water to cool off. When cold, add to every 1000 parts of the solution 51 parts of glycerin and a little salicylic acid as a preservative. If the solution is too thick, thin it with water that has been boiled and cooled off again. Do not add any more glycerin or the solution will never set.

(3)

A dextrine library paste is made as follows:

White dextrine	12 av. ounces
White sugar	3 av. ounces
Alum	½ av. ounce
Water	20 fl. ounces
Formaldehyde	10 minims
Oil of wintergreen	10 minims

Rub the solids to powder, mix well, and add the water in a boiling condition. Then allow to cool, rub in a mortar to a smooth consistency, and finally incorporate the solution of formaldehyde and oil of wintergreen.

Surgical Shellac

(T. R. Y.)—We are unable to locate the formula for "surgical shellac" under the title you give, but we strongly suspect that it is similar to the following formula used by the Red Cross operators for stiffening surgical splints: Dissolve one pound of gum shellac in 1½ pints of alcohol (95 per cent.) and one dram of borax. Let the mixture stand until all of the shellac is dissolved, when it is ready to be applied. It is said that old cloth makes the best splints. Apply the solution to one side of the woolen cloth with a brush and dry thoroughly before a hot fire (it takes about half an hour to dry properly). Then apply a second coat on the same side and dry as before. If a stronger piece is desired on one side, take two pieces that have been previously prepared, dry, and place them together; when pressed dry with a hot iron, the pieces will unite and become as one piece. Always be sure to dry out all of the alcohol. To temper the cloth for use, hold before a hot fire until soft, then apply. The splints will adapt themselves to the shape of the limb at once. The application may be made to set more quickly by applying in a cold atmosphere or by dipping the splints in cold water. This preparation is recommended for use in general surgery and may answer your purpose.

Solution of Glycerophosphates (Without Sugar)

(P. W. C.)—The last revision of the National Formulary supplies a formula under the title "Compound Elixir of Glycerophosphates" for the preparation of a solution of glycerophosphates without the use of sugar, which generally has given satisfactory results. Another standard formula is the following, taken from the British Pharmaceutical Codex;

Calcium glycerophosphate	200 grains
Potassium glycerophosphate	100 grains
Sodium glycerophosphate	100 grains
Magnesium glycerophosphate	100 grains
Iron glycerophosphate, in scales	50 grains
Glycerophosphoric acid (20 p.c.)	200 minims
Tincture of cudbear	300 minims
Orange-flower water, undiluted	120 minims
Cherry laurel water	200 minims
Glycerin	10 fl. ounces
Stronger chloroform water, enough to make	20 fl. ounces

Dissolve the glycerophosphates in the glycerin mixed with 5 fl. ounces of the stronger chloroform water; add the glycerophosphoric acid, aromatic waters, tincture of cudbear, and finally sufficient stronger chloroform water to make up the required volume. The dose is from 1 to 2 fl. drams.

WOULD AMEND FOOD AND DRUGS ACT

The National Drug Trade Conference adopted a resolution at its recent meeting in Washington, expressing the opinion that, wherever State legislation pursuant to the Constitutional amendment for national prohibition was enacted, the Volstead act should be used as a model and thus the greatest possible uniformity secured between Federal and State laws.

The following resolution relating to the list of drugs in the Pure Food and Drugs Act, the names of which are required to be stated on the labels or packages containing them, was adopted:

"That the Conference recommends to the Secretary of Agriculture, the Secretary of the Treasury and the Secretary of Commerce that the regulations for the enforcement of the Food and Drugs Act be so amended as to require the substances required by paragraph 2, section 8, of said act, to be stated on the package, to be stated by giving the quantity in each pill, tablet, powder or other separate unit dose, instead of the quantity in each ounce; provided, however, that a reasonable time shall be given manufacturers to use up present stocks of labels and packages."

The Conference was opposed to extending the list of drugs, the names of which must be stated on the labels, to include all habit-forming and poisonous drugs.

A resolution was adopted in favor of the Steenerson bill which would remove existing limitations upon the authority of the Postmaster General to permit the mailing of poisons.

The following named officers were elected: President, Samuel C. Henry, Chicago; vice-president, H. Lionel Meredith, Baltimore; secretary-treasurer, W. J. Woodruff, Detroit. Executive Committee—John C. Wallace, George W. Lattimer, Dr. W. C. Abbott, Harry B. Thompson, H. Lionel Meredith, Henry P. Hynson.

New Books for Pharmacists

EXERCISES IN CHEMISTRY. By William A. Noyes, director of the Chemical Laboratory, and B. Smith Hopkins. assistant professor of inorganic chemistry in the University of Illinois. 12 mo., 131 pages, New York, Henry Holt and Company.

This laboratory manual, intended to be used in connection with the senior author's "College Textbook of Chemistry," begins the subject by giving several valuable suggestions to the student and a number of paragraphs addressed to the teacher, and anyone who takes the time to read them will understand at once that they have been prepared by those who have qualified as successful laboratory instructors. The teacher is told that in the selection of material for the experiment the uppermost thought has been to present the material in a manner that will cause the student to think and reason, a process which represents a higher type of education than the training of the memory. To this end, many questions, both direct and implied, are scattered through the experiments with the double object of training the worker's observation and of teaching the fundamentals of the science.

Manipulative skill is an important factor in the student's success, and he is urged to form correct habits in the laboratory. In the chapter on manipulation most of the methods relating to procedure are described, as pouring from a beaker, filtering, washing precipitates, decanting, use of glass tubing, heating material in glass or porcelain, use of the balances, ending with precautions to avoid accidents. Then follow in succeeding chapters instructions relating to the preparation of pure substances, elements and compounds, each being supplemented by appropriate experiments to illustrated a fundamental law of chemistry. Throughout the book appear various quantitative experiments which are selected to develop the student's skill in manipulation and give him drill in calculations. Part II is devoted to class-room exercises, which include explanations of the various problems relating to laboratory work, followed by nearly four hundred problems to be solved.

A MANUAL OF OSTEOPATHY with the application of physical culture, Baths and Diet. 12 mo., 177 pages, cloth. New York. The University Book Company.

Notwithstanding that practitioners of the science of osteopathy are in avowed opposition to the use of drugs, pharmacists will find considerable information in this book showing how the osteopath attempts to cure disease. The name given to this science and system of healing by the founder, we are told is "osteopathy," not because the founder regarded all healing as "bone setting," but because "he regarded the bones as Nature's medium of manipulating the human system, just as an allopath or a homeopath regards drugs as a means of healing disease." The Golden Rule of the osteopath is to "take no drugs or stimulants while taking treatments." Having learned the essential points in anatomy and physiology, the practitioner is ready to begin on the patient for the cure of disease, this book outlining the special movements, forty-five treatments being illustrated and described.

Subsequent sections of the book describe the various special movements applicable to the diseases of the head; the throat, lungs and heart; of the abdomen; miscellaneous diseases, diseases of the skin, of women, men, etc., while a number of pages are devoted to diet lists and sick-room dietary, baths, exercises and special nerve centers. Many of these suggestions and hints will fit into the practice of almost any physician.

INORGANIC CHEMICAL SYNONYMS, and other useful chemical data. By Elton R. Darling, M.S., Ph.D., in charge of industrial chemistry, Newark Technical School, Newark, N. J. 4½x6½ inches, 100 pages, cloth. New York, D. Van Nostrand Company.

As a handy reference work for "chemical colloquialisms," and the variations in nomenclature applied to inorganic chemicals, this little book will be found helpful and useful both to the student and the chemist. The student may readily know most of the facts about such a substance as ferric oxide, when reference is made to it under that name, but in the literature of the technical industries or arts its designation under any one of a dozen or more synonyms currently used by workers in a particular industry would surely prove confusing until he has ascertained for himself the identity of the "chemical" which may be disguised under any one of a number of synonyms. The lists of synonyms appearing under the general scientific name of each inorganic chemical in this book include most of the names thus used in technical journals and trade publications, and show on the part of the author not a little bibliographical research in the preparation of his material. Besides these synonyms, the book includes tables of the elements, atomic weights, specific gravity, comparisons of the various systems of weight, capacity, volume and temperature measurement, etc., as well as much historical information concerning the discovery of the elements or bases of the compounds generally designated as "inorganic chemicals."

A TEXT BOOK OF CHIROPRACTIC CHEMISTRY. By S. J. Burich, D.C., Ph.C., professor of chemistry and histology in the Palmer School of Chiropractic ("Chiropractic Fountain Head"). 1st edition. 8 vo., 430 pages, cloth. Davenport, Ia., S. J. Burich.

Just how much chemistry the average individual needs to practice the manipulation of the spinal column of the patient who wishes to be restored to health according to chiropractic method is not set forth in this book. It is inferred, however, that the chiropractic student has specific needs for information of this character, for the author so states, and he has written this volume to supply this vacancy. Most of the information given leads us to believe that not all students taking up chiropractic are equipped with a fundamental knowledge of elementary chemistry, such as is ordinarily taught in the average high school, for most of the author's "essential parts" of the subject as outlined by him are to be found in almost any standard elementary work on chemistry. The definitions and facts relating to physiological chemistry are possibly more to the point, for any one who pretends to a knowledge of the healing art should have some acquaintance with the chemistry of the physiological processes. The section on poisons and antidotes is good information to have at command in any well-regulated office.

THE PHYSICIAN'S VISITING LIST FOR 1920. Philadelphia. P. Blakiston's Son & Co.

A description of this well-known pocket record, published for almost seventy years, is hardly needed; it still remains a favorite medium for records of the general practitioner. The Regular editions are dated beginning with January 1, 1920, and are made up in sizes for 25 patients weekly; 50 patients weekly in two volumes; 75 and 100 patients weekly in two volumes. Perpetual editions and monthly editions are undated. The Perpetual edition is made up for 25 and 50 patients weekly. The monthly edition is plain and with flap.

The Progress of Pharmacy

Making Fluidextract of Glychyrrhiza—

According to Anthony Armentano, boiling water is found the best to exhaust glycyrrhiza in the preparation of the fluidextract. The drug should not be boiled with the water, but the water should be at the boiling point when the drug is mixed with it and should be boiling when poured upon the drug contained in a percolator. For making a fluidextract by this method the following procedure is recommended; Moisten 100 pounds of coarsely ground glycyrrhiza with 100 pints of boiling water. Cover tightly and macerate over night. Pack in a percolator in which the diaphragm is perfectly covered with good filter paper and about three inches in depth of clean sand distributed evenly over it. A diaphragm should be placed upon the top of the drug and weighted down with large pebbles or other convenient device. Boiling water should now be poured upon the drug and the percolate allowed to run about 100 pints per day until the drug is exhausted. About 500 pints will be sufficient. If the percolate cannot be evaporated at once, one-half per cent of chloroform should be agitated with it to preserve it, but the best practice is to evaporate as soon as possible. It is necessary also in making the preparation in large quantities to sprinkle the drug with a little chloroform when packing and to use a little more each day. The percolate should be evaporated *in vacuo* or on a waterbath to 76 pints, cooled, 20 pints of alcohol added and allowed to stand 24-48 hours, and filtered. Product 96 pints. It is stated that the initial easy filtration and the subsequent freedom from precipitation recommend this process and product as all that can be desired—(*Journ. A. Ph. A.*).

Epsom Salts Mined in Canada—

A new industry has been started in Canada, that of mining Epsom salts. The discovery of large deposits of these salts was made a few years ago in British Columbia, but it is only now that they are being marketed to any extent in Canada. The deposits are located in a chain of five lakes near Basque, British Columbia. The formation of these deposits is particularly interesting. The surface of the salt lake is a mass of hard, white crystal. Slabs of salt are cut out by saws similar to those used in ice harvesting. Underneath this hard crystal is a liquid of the same chemical nature, which, when it oozes up and comes in contact with the sun and air, becomes hard and can be cut into slabs just the same as the top surface. The investigation shows that the deposits are at least 40 feet deep, and an analysis by a Government chemist shows that the salts are practically 100 per cent pure magnesium sulphate. The lakes are of the basin variety and are in the dry belt, where the combined rain and snow fall does not exceed 5 inches annually. The deposits are covered with water from 6 inches to 1 foot from the last of March until June or July. The hot, dry summer winds evaporate the water very rapidly, and during most of the year the magnesium sulphate may be removed easily. The salts occur in solidified masses of varying shapes and sizes, surrounded by mud rings.

New Method for Estimating Oxalic Acid—

With the exception of formic acid, oxalic acid is the only common organic acid which yields carbon monoxide when heated with acetic anhydride at 100° C. It decomposes quickly and quantitatively and therefore may be estimated gasometrically. Soluble oxalates are first evaporated in the reaction tube with an excess of hydrochloric acid and insoluble oxalates are decomposed by a mixture of acetic anhydride and sulphuric acid (9:1). In the latter case, however, the results are not so good, as the mixture alone evolves some gas which does not dissolve in caustic potash, and of course, the reaction is no longer confined to oxalic acid—(*Ber.* through *J. Soc. Chem. Ind.*).

Preparation of Sodium Morrhuate—

One hundred grams of cod liver oil, 20 grams of sodium hydroxide (dissolved in the same volume of water), and 200 cc. of rectified spirit are boiled on a waterbath under a reflux condenser for about four hours. The solution is then mixed with a little water, and exactly neutralized with diluted sulphuric acid. Some of the alcohol is then recovered, and the solution mixed with nearly 200 grams of fairly large grained sand (washed with hydrochloric acid and water), and the whole quickly evaporated to dryness on the waterbath. The dry residue is then extracted with sulphuric ether in a Soxhlet's apparatus (using ice water in the condenser), and the fatty acids liberated by a slight excess of the calculated quantity of dilute sulphuric acid (say, a diluted solution of nearly 18 cc. of strong sulphuric acid of sp. gr. 1.82). The fatty acids liberated are washed several times with water to free from sulphuric acid, and then neutralized (using phenolphthalein as indicator) with a solution of pure sodium hydroxide, using much rectified spirit, and as little water as possible. The neutral solution is quickly evaporated to dryness on the waterbath—(*Brit. Med. Jour.* through *Pharm. Journ.*).

Active Principle in Insect Flowers—

Yamamoto finds that the principle termed by Sato "pyrethron," which exists principally in the ovary of the flower of the *Chrysanthemum Cinerariacfolium*, especially during the blooming period, is an almost neutral mixture, very sensitive to heat, which on hydrolysis yields two alcohols, $C_{21}H_{34}O$ and $C_{27}H_{46}O$, a liquid fatty acid, palmitic acid, and possibly another solid fatty acid. Pyrethron has a saponification number of 216, and iodine number of 116; In a concentration above 0.077 per cent it is said to check bacterial growth.—(*Ch. & Dr.*).

Guaiodine—

Guaiodine is a dark brown oily liquid with an odor like guaiacol and solubilities like the fats. Free iodine was absent in a recently purchased specimen, but traces were present in a specimen known to be several years old. Steam distillation gave 3 per cent. of a volatile substance, which was concluded to be guaiacol or a guaiacol-like substance. The non-volatile residue consisted of an iodized fatty oil. The iodine amounted to 7.25 per cent. of the original material (guaiodine). In a fresh specimen all of the iodine is in combination.—(*Rep. Lab. Am. Med. Assoc.* through *Ch. Abstr.*)

Character of Papain—

One investigator reporting on papain to the Pennsylvania Ph.A., states that the substance continues to assay low and vary in activity. Six lots examined digested 1.33, 4.01, 9.48, 13, 6, 14.0 and 14.6 parts of fresh lean beef, calculated on a dry basis, respectively. Another investigator reports that probably no substance has been subjected to as much adulteration as papain. Among the adulterants that are known to have been added are bread crumbs, rice, flour, dextrin, congee and wild cactus milk. Positive identification of some of these substances is very uncertain so that it is possible, in some instances, for unscrupulous dealers to dispose of adulterated goods without detection. One sample was rejected because it was of suspicious quality. It had the property of readily absorbing water which rendered the papain gummy and unfit for powdering—(*Proceedings Pa. Ph.A.*).

Gasoline Should Be Stored Underground—

The prime reason for advocating the storage of gasoline underground is from the standpoint of safety. Another good reason which is important to the motorist is that gasoline stored beneath the ground is maintained in its full power, free from evaporation or deterioration. When gasoline comes from the refinery it contains what is called a chain of boiling point fractions, starting at, say—100 degrees and continuing up to perhaps 400 degrees. It also contains the correct proportion of low boiling point fractions to insure easy starting in any temperature—the correct proportion of intermediate boiling point fractions to insure smooth acceleration—and the correct proportion of high boiling point fractions to give the maximum power, speed and miles to the gallon.

It can be readily understood by even the amateur motorist that gasoline above ground, even though it may be in a glass bottle in five gallon lots, is subject to the sun's rays or change in temperature, which is bound to affect the consistency of the gasoline. It would be well for motorists to take the trouble of seeing that their gas supply is secured direct from underground tanks, delivered to the car direct by suction rather than by air pressure, as air pressure is bound to force air bubbles through the gas, which would take with it the vapor from the liquid, which is the very life of it.

Hektograph Composition—

Purkis finds the following composition to have advantages over the commercial article employed for copying pads;

Leaf gelatin	1 part by weight
Water	5 parts by measure
Golden syrup	8 parts by measure
Carbolic acid in 10% solution.	1-16 part by measure

Break the leaf gelatin into small pieces and soak in the water for about thirty minutes. Heat in a waterbath until dissolved; add the golden syrup and the preservative; filter through fabric into a shallow dish and skim off the scum with the edge of a piece of clean stiff paper. For a 10x8 in. dish about 2¼ ounces of the gelatin, and other ingredients in proportion, will be about right. A rough paper is advised for the original writing, but he suggests, as being better still for the purpose, a non-absorbent material, such as acid-etched ground glass. The ground glass is left in contact with the pad for about fifteen minutes or more, but possibly less would do.—(*Brit. Journ. Photog.* through *Pharm. Journ.*).

Determination of Extract in Tinctures and Fluidextracts—

According to F. Eschbaum, the difficulty of obtaining concordant and accurate results in determining the solid matter in tinctures and fluidextracts by ordinary methods of drying the liquids on filter paper can be overcome by using the following procedure. A strip of paper 20 cm. long and 6-7 cm. wide is folded over to the extent of about 5 mm. along both longitudinal edges, then rolled up and inserted in a metal ring. The roll is dried in the oven at 108° and weighed in a weighing bottle. The paper is unrolled and clipped at both ends in a pair of clamps, 5-6 cm. broad, supported over a hot plate. A measured quantity, 2-5 cc. of the tincture is then distributed over the paper from a pipette, and when the liquid has evaporated the paper is rolled up, dried in the oven, and weighed. On account of hygroscopicity the weighings must be made as quickly as possible and the loss of time in cooling may be avoided by employing a weighing bottle with a vacuum jacket and weighing immediately after removing the paper from the oven—(*J. Soc. Chem. Ind.*).

Dreuw's Ointment—

This ointment, originated by Professor Dreuw, successor of the celebrated Berlin dermatologist, Dr. Lassar, and extensively used in the treatment of psoriasis, is the subject of a short paper presented to the Section on Practical Pharmacy and Dispensing by Otto Raubenheimer at the recent meeting of the A.Ph.A. Many formulas have been published, but the following given to the author by a physician, who took a postgraduate course of dermatology under Professor Dreuw, would appear to be the original formula;

Salicylic acid	10 grams
Oil of birch tar........................	20 grams
Chrysarobin	20 grams
Wool fat	25 grams
Soft soap	25 grams

Considerable difficulty has been experienced in compounding this ointment, the principal trouble or incompatibility existing in the action of the salicylic acid on the soft soap. The following procedure, however, will produce a nice homogeneous ointment; 1. Incorporate the finely powdered salicylic acid with the oil of birch tar and then gradually mix in the chrysarobin. 2. Mix together the wool fat and soft soap. 3. Mix 1 and 2 and dispense in a jar or wide mouth bottle. Raubenheimer states that for some reason unknown, Dreuw's ointment was christened "Vienna Paste" by the physicians of a large dermatologic hospital in New York City, and that the latter name has spread or will spread throughout the United States. However, as "Vienna Paste" is a well-known synonym for Potassa cum Calce, official in the N. F., a strong caustic, the latter should not be dispensed when Dreuw's ointment is ordered under the name of "Vienna Paste"—(*Journ. A.Ph.A.*).

Mexican Linaloe—

The wood of the linaloe tree (*Amyris Linaloe*) is light yellow in color and contains a resin called by the natives of Mexico "xochiopal." The wood has a very pleasant odor, described as somewhat like that of a mixture of oil of lemon and oil of jasmine, which on being distilled yields from 6 to 9 per cent of a very light yellow oil. The distillation process is primitive and inexpensive, the wood being simply cut into small chips or shavings, put into the still and distilled with steam. The tree is very plentiful in the southern part of Puebla and the State of Guerrero, as also in the region along the Pacific coast in the tropical portion of Mexico. Puebla, in the state of Puebla, is the chief market for the oil, which is largely used in the manufacture of perfumery. Before the war the greater part exported from Vera Cruz was sent to France and Germany, small shipments going to the United States. The market price in Vera Cruz is about $10 (pesos) per kilo.

Astracanit: Salt Cake Sulphate—

Immense deposits of "astracanit," a natural double salt of sodium and magnesium, have recently been discovered in the Province of Saskatchewan, and the crude material is now being shipped to Kitchener, Ontario, to be refined, although an evaporating plant is being constructed to develop the business on the ground. To the trade the commodity is known as crude Glauber's salt, or salt cake sulphate, which, when subjected to treatment, will yield such products as Glauber's salt (sodium sulphate), extensively used in paper making; Epsom salt (magnesium sulphate), bromide, common salt, and magnesia.

Helianthus as a Cinchona Substitute—

A German prisoner of war who has returned from Siberia states that Helianthus (species not named, but probably the ordinary sunflower is meant, which is largely grown in Siberia) is extensively used as a perfect substitute for the unobtainable cinchona bark. The leaves and young stems of helianthus are extracted with alcohol, and the resulting extract is used by the Siberian peasants as a prophylactic, and also as a remedy, for malaria. It has been already in use in the fever districts, and the German prisoners speak very highly of its value—(*Ch. & Dr.*).

Pharmaceutical "Dog-Latin"—

Pharmaceutical "dog-Latin," Dr. Henri Martin points out, has its useful side, and its possibilities might be still further extended. If, he says, the compilers of the Codex object to insert "trade-mark" names in the official volume, why not obviate the difficulty by "Latinizing" the universally familiar appellation? Why should not heroin appear as heroinum instead of diacetylmorphinum chlorhydricum, and so on?—(Paris correspondent in *Ch. and Dr.*)

FOREIGN PHARMACEUTICAL SPECIALTIES

Aniodol—A combination of of trimethanol and allyl sulphocyanide dissolved in glycerin.

Argatoxyl—Thesilver salt of p-aminophenylarsonic acid containing 33 per cent of Ag and 23 per cent As; for subcutaneous injection with olive oil in cases of blood poisoning.

Arsitriol—Calcium glycerinoarsenicum.

Carcolid—A preparation of colloidal coal (or charcoal) in the form of a fine black powder yielding with a little water with a paste, with more water, a colloidal solution; for use like other charcoal preparations in combatting dysentery, etc. The preparation is claimed to be especially active towards toxins and chemical poisons, although it possesses no very pronounced adsorptive power.

Catacol—A substitute for antiphlogistine consisting of glycerin and kaolin.

Coccochine—A wine containing cinchona, cola, coca and glycerophosphates.

Coffeespirin—Tablets of acetylsalicylic acid with caffeine citrate.

Corypinol—A snuff consisting of coryfin and oleum pini pumilionis.

Despyrol—A mixture of acetylsalicylic acid 86 per cent and potassium bitartrate 14 per cent. Also formerly known as "despyrin."

Detergol—An alcoholic solution of coal tar used as Liquor carbonis detergens in skin diseases.

Dysentin—An antidiarrhoicum containing aluminum acetyltannate, bismuth and salicylic acid.

Flavine—A one-tenth per cent solution of diaminomethylacridinium chloride used in the treatment of wounds.

Ittiolo—An Italian preparation of ammonium sulphoichthyolate.

Kardysat—Synonym for digitalysat-Buerger.

Lecithin Eisentinktur—A solution of iron pyrophosphate and ammonium citrate with 0.4 per cent egg lecithin.

Leojodin—Tablets containing 0.05 gram of iodine in combination with protein.

Nargentol—A proteinate of silver, containing 24 per cent of Ag.

Pacocol—Solution of saponated cresol.

Peptozon—A laxative containing magnesium oxide, agar agar and diastase.

Poal—A rat and mouse poison.

Pyretol—A sulphate of pyramidon and quinine.

Quinacol—A compound containing equal parts of quinine and guaiacol; prescribed in 4 minim capsules in influenzal pneumonia.

Quinocoltablatten—Each tablet contains 0.13 gram of quinine guaiacolsulphonate and extract of Jamaica dogwood (Piscidiæ erythrinæ), given in tuberculosis.

Rogonal—An artificial cacao butter, melting at 35.8° C.

Salcine-Pillen—Each pill contains 0.15 gram of salol and 0.075 gram quinine.

Sanaperin—Acetylsalicylic acid colored with quinoline yellow.

Santheose—Capsules containing 0.5 gram pure theobromine.

Septovincin—Formerly jodal, is trichloracetyldiiodophenol.

Sirop Esca—A syrup containing potassium guaiacolsulphonate and hypophosphites.

Stomacol Boslet—Consists of sodium bicarbonate, potassium bitartrate, magnesium oxide, benzonaphthol, sugar and anise oil.

Sudian—Essentially a medicinal potash soap.

Tannoxyl—A substitute for tannyl, a compound of tannin and hydrochlorocasein.

Trusol—Liquor cresoli saponatus containing 50 per cent cresol.

Unguentum Aluminis Albuminatum Comp.—An ointment containing 17 grams albumin, 3 grams alum, 0.5 gram mercuric sulphide, 8.5 grams almond oil, 1 gram ichthyol, 3 grams tincture of benzoin, and 140 grams water.

Unguentum Mirabile—Consists of mercuric oxide, 0.5 gram, ethereal oil of beech, 10 grams, camphor, 5 grams, paraffin ointment, 35 grams, boric acid, 5 grams, olive oil, 5 grams and spermaceti, 40 grams.

EXPLAINING THE METRIC SYSTEM

A member of World Trade Club of San Francisco holds the world record for rapid explanation of the metric weight measurements and the way in which they ought to be used. He does this in one minute. An objector who had never looked the matter up declared that the metric system was complex and that it would take a long time to learn it. It was then that the member of World Trade Club first undertook to explain, in one minute, all that need to be known of metric units. He did it to the satisfaction of eminent auditors. Here is how he did it:

"Learn only the units, dollar, meter, liter, gram;—dollar, the measure of value; meter, the measure of length; liter, measure of bulk; gram, for weight. You know all about the American dollar. The metric units, meter, liter, gram, are just like the dollar, divided decimally and multiplied decimally. If you want to compare metric units with present units, the meter is 10 per cent more than the yard; 500 grams is about 10 per cent more than the pound avoirdupois; the liter is 5 per cent less than the United States liquid quart (13 per cent less than the British liquid quart)—that is all 90 per cent need to use the metric standards."

The Perkin medal will be awarded to Prof. Charles F. Chandler this year, for his work in standardizing kerosene. The award will be made Jan. 16, at the Chemists' Club, by the Society of Chemical Industry.

Formulas from Current Literature

Poison for Rats and Mice

Barium carbonate	4 ounces
Biscuit flour	3 ounces
Oatmeal	1 ounce
Oil of anise	5 minims
Synthetic musk	1 grain
Beef drippings, sufficient to make a paste.	

Mix. A British formula, said to be very effective, and does not contain a scheduled poison. Pieces the size of a bean can be laid in holes and runs. It is also stated that a few pieces of naphthaline placed in mouse-holes will have the effect of causing the little rodents to abandon their quarters.

Chlorazene Ointment

White wax	100 parts
Balsam of Peru	3 parts
Tincture of benzoin	3 parts
Chlorazene	4½ parts
Olive oil	200 parts

Dissolve the chlorazene in the warmed olive oil and in this incorporate the balsam and the tincture. Finally add the wax, melted at a very low temperature.

Soothing Ointment

Lanolin	20 grams
Purified yellow wax	20 grams
Olive oil	120 grams
Camphor	10 grams
Salol	10 grams
Menthol	5 grams
Rose water	60 grams
Cherry laurel water	60 grams
Borax	5 grams

Jaudon (*Repert. Pharm.* through *Ch. & Dr.*) recommends the above ointment for the treatment of burns, chilblains, ulcerations, abrasions, and in general all painful wounds.

Sanitary Blocks

These are made by melting naphthalene and pouring it into moulds. Sometimes the naphthalene is colored blue or red with an aniline dye, and some varieties are mixed with a proportion of sawdust with the object of subdividing the naphthalene. The wire hooks by which the blocks are suspended are stuck into the naphthalene before it cools (*Ch. & Dr.*).

Marylebone Cream

Under the above title Dr. Eric Pritchard, a wellknown specialist, contributes the following formula to *Pharm. Journal* (London), with the statement that it serves as a cheap substitute for cream when and in combination with diluted milk;

Linseed oil	½ teaspoonful
Benzoic acid	1-32 grain
Saccharin	1-32 grain
Essential oil of almonds	⅛ drop
Decoction of Irish moss, sufficient to produce	1 teaspoonful

Dose: Half to one teaspoonful to be added to each bottle of diluted milk. Dr. Pritchard states that he also uses another formula for the preparation of "modified" Marylebone cream, which is a mixture of vegetable oils and suet, and which can be used with separated milk containing no animal fats. In his opinion, experience proves that nutrition at once suffers when vegetable fats are exclusively substituted for animal fats in the feeding of infants. Vegetable fats are a valuable addition to, but cannot be employed as complete substitutes for animal fats.

Solution of Calcium Acetylsalicylate

Calcium acetylsalicylate, 5 to 10 grams; syrup of raspberry, 10 grams; distilled water, 180 grams. One tablespoonful every three hours. According to the *American Druggist*, the excellence with which this so-called "soluble aspirin" or calcium acetylsalicylate is borne by the most sensitive stomachs has been often called to the attention of prescribers and it is coming into use more than formerly. The above is an ideal way of administering the drug.

Liquid Court Plaster

Pyroxylin	1 ounce
Amyl acetate	5 fl. ounces
Acetone	15 fl. ounces
Camphor	2 drams
Canada balsam	2 fl. drams
Castor oil	2 fl. drams
Oil of cloves	15 minims

Dissolve the pyroxylin in the amyl acetate and the acetone, and add the other ingredients. Keep the mixture away from fire. It is essential that a good grade of pyroxylin be used.

Menthol Pencils

Menthol	2 parts
Chloral hydrate	1 part
Cacao butter	4 parts
Spermaceti	8 parts

Melt the cacao butter and spermaceti together and add the remaining ingredients previously triturated together. Mix thoroughly and pour into suitable moulds. The addition of a small quantity of paraffin is said to render this preparation tougher.

Hospital Disinfecting Spray Solution

Formaldehyde solution	1 part
Soft soap	50 parts
Alcohol, 96 per cent	50 parts
Oil of lemon	25 parts
Oil of bergamot	5 parts
Oil of spike lavender	25 parts
Oil of thyme	10 parts
Oil of verbena	30 parts
Oil of rosemary	5 parts

Mix the oils with the soap, then add the alcohol and stir until the soap is dissolved, which will be in 15 to 30 minutes. Filter. Twenty-five Cc. of this solution are added to 500 Cc. of water and the mixture then sprayed in the atmosphere it is desired to deodorize and disinfect. This is a Continental formula which is said to be employed with success in hospitals and wards of similar institutions.

Skin Tightener

Zinc sulphate	40 grains
Rectified spirit	2 fl. ounces
Quince seed	¼ ounce
Glycerin	½ fl. ounce
Oil of ylang ylang	5 drops
Rose water	5 fl. ounces
Elder flower water	5 fl. ounces
Distilled water to make	20 fl. ounces

Wash the quince seed in cold water, drain and simmer the clean seed in 10 fl. ounces of distilled water for five minutes. Strain through felt. Add the other ingredients to the strained liquid. Set aside for 14 days, again strain and bottle off. A small quantity to be rubbed into the flaccid skin every night. After a few applications the skin should be well massaged with cold cream.

DUTCH OPIUM LEGISLATION

Netherlands Government Takes Action to Perfect Ratification of Hague Convention Agreement—Principal Features of the Act

The following abstract of the Dutch Opium Act of Oct. 4, 1919, supplied by the Era's Amsterdam correspondent, is of interest to many druggists as showing what the Netherlands Government is doing in its effort to control the narcotic traffic in its territories and to perfect the ratification of The Hague Opium Convention. The principal features of the several articles and sections of the act are as follows:

Art. 1. The following stipulations apply to opium and all its derivatives (also crude opium, prepared opium, medicinal opium, morphine, heroine) and cocaine:

A. It is prohibited to prepare, to work with, to transport, to sell, to dispense or to have in stock for selling or dispensing the above mentioned substances within the Kingdom in Europe.

B. It is prohibited to import the above mentioned substances into the Dutch Kingdom in Europe.

C. It is prohibited to export the above mentioned substances from the Dutch Kingdom in Europe.

Art. 2. (1) The prohibition mentioned in Art. 1, does not apply:

a. to pharmacists and physicians authorized to dispense medicaments, who import, transport, work or make preparations of the above mentioned substances in order to sell or dispense them as medicines, provided that they comply with the stipulation of the law of June 1, 1865, regulating the practice of pharmacy.

b. to veterinarians who import, transport, work or make preparations of the above mentioned substances in order to sell or dispense them as medicaments for cattle, provided that they comply with the stipulation of the law of July 8, 1874, regulating the practice of veterinarians.

c. to those persons who have obtained a written license of the Minister of Labor in which thev are authorized to import, transport, export, sell, dispense or have in stock for selling or dispensing the above mentioned substances.

d. to those persons who have obtained a written license of the Minister of Labor, authorizing them to prepare in gross the above mentioned substances or medicinal preparations thereof in strictly defined and easily described localities.

e. to those persons who want to make use of, or to work the above mentioned substances for strictly scientific purposes or demonstrations and have obtained permission from the Minister of Labor.

f. to those persons who occupy themselves with transit trade of the above mentioned substances, provided that they comply with the stipulations that will be made with regard to the transit trade.

(2) The license, mentioned sub. c, is accorded to every one who does not sell in retail trade, does not keep open shop and can prove to the satisfaction of the Minister of Labor that he carries on a wholesale trade in medicaments or similar substances.

(3) The license, mentioned sub. d, is accorded to every one who can prove to the satisfaction of the Minister of Labor that he prepares medicaments in gross.

(4) The license, mentioned sub. e, is accorded to every one who can prove to the satisfaction of the Minister of Labor that he will make use of the license only for scientific purposes or demonstrations.

(5) In according the above mentioned licenses, the Minister of Labor mentions the conditions necessary to comply with the stipulations of the Opium Convention, and to assure the observance of the stipulations of the opium law and to prevent abuse.

(6) Permission for exportation into countries where the import of the substances concerned is prohibited, is not accorded, unless the person concerned can prove the substances are destined for persons or institutions which are authorized by their governments to receive the substances concerned.

(7) A license given according to these articles can ever be withdrawn.

(8) This withdrawal takes place according to a ministerial decree, in which the reasons are mentioned; a certain space of time is mentioned within which the wholesale dealer or manufacturer can rid himself of the stocks he had obtained before the withdrawal of his license and during which he is allowed to transport, export, sell or dispense his stock.

(9) A new license can be refused to persons whose license has been withdrawn.

Art. 3. With the exception of persons mentioned in Art. 8, paragraphs 1, 4 and 6 of the code of proceedings in penal law, officials of the State Public Health Service, of the import, duties and excises, policemen on horseback and officials of the State and Municipal police are charged with the tracing out of offences against the law.

Art. 4. (1)The persons mentioned in Art. 3 are at any time authorised to claim the delivery of all articles which they have reason to believe have served or are destined to be unlawfully used and to lay hold of the same.

(2) Officers of the law at any time are allowed to enter vehicles and vessels of which they know or may have reason to believe are being used for the service of importing opium or its derivatives, and also may enter places where offences against the law have been committed.

(3) In case admittance is refused, the officers can force their way through, if necessary, with the help of the police.

(4) In places which are at the same time habitations, or are only accessible through habitations, they are not allowed to enter against the will of the inhabitant, unless they can show a special written mandate of the burgomaster or cantonal judge.

(5) Such officials must draw up an official report of their entering these places and a copy must be transmitted to the person whose house has been entered within twenty-four hours.

Art. 5. (1) Offences against Art. 1 of this law are punished with a "custody" of not more than three months or a penalty of not more than 1,000 florins.

(2), The confiscated opium or other substances are forfeited.

(3) In case the offence against the law is committed within two years after a former condemnation of the culprit on account of an offence against one of the above mentioned articles, the new offence is punished with a "custody" of not more than six months or a penalty of not more than 3,000 florins and forfeiture of the confiscated substances.

(4) The forfeited substances can only be sold to persons mentioned in Art. 2, sect. 1, a, e, etc., in compliance with the stipulation given by the Minister of Labor. If necessary, the forfeited substances are destroyed.

Art. 6. (1) The offences against this law are considered to be a "misdemeanor" (the Dutch word "misdrijf," implies something more serious than a simple offence against a law, which is called "overtreding").

(2) The penalties mentioned in the laws on import and excise duties are not valid in case the infringements fall under this law.

Art. 7. This law can be mentioned under the name "Opium law," but the year and issue of the Staatsblad in which it is published must also be mentioned.

Art. 8. The law will be declared valid on a date to be later fixed.

FOOD AND DRUG LEGISLATION IN PERIL

Calder Bill Said to Offer Protection Only to Quacks, Charlatans and Frauds

The whole of Wisconsin's food and drug legislation may be swept into the wastebasket, her markets opened to almost unlimited varieties of adulterated food products and pernicious drugs, and all but the most scanty protection against malicious practices in manufacture and handling of edibles wiped away, according to Dairy and Food Commissioner George J. Weigle, who has sent protests to Senators La Follette and Lenroot against the Calder Bill.

"This bill does offer protection to every fraudulent package of imitation food and quack medicine not specifically forbidden in its own clauses," declared Mr. Weigle.

"'No law of any state, city or municipality, relating to the adulteration or misbranding of foods, drugs, or medicines or regulation of the branding,' says the bill, 'shall apply to or interfere with the sale of any foods. drugs, or medicines in package form which have been transported in interstate commerce.' That means that State control of nine-tenths of the food sold anywhere is obliterated."

The bill, he explained, is the result of a recent decision of the United States Supreme Court that the Federal Food and Drugs Act in its present form does not interfere with State regulation of selling at retail. Large food manufacturing interests, he charged, are backing the amendment for their own ends. Wisconsin suffers specifically in that neither the shipment of colored oleomargarine nor the use in food of saccharin or benzoate of soda are prohibited.

"No doubt it would be desirable to have greater uniformity in the food laws of the various States," suggests Mr. Weigle, "but let not such uniformity be attained by lowering the standards in the States which have pioneered in the control. Let the United States food and drugs act be made as good as the best of the State laws."

Platinum is now quoted at $155 an ounce for soft metal, $165 for that containing 5 per cent of iridium, and $175 an ounce for that containing 10 per cent of the hardening metal. These figures represent a general advance of $10 an ounce over the prices recently current in this market, and every indication is said to point to further increases before very long. All grades of platinum are in short supply here, the so-called 10 per cent platinum being especially hard to get because of the marked shortage of iridium.

RULES FOR CONTROL OF NARCOTICS

Internal Revenue Department Issues Regulations for Importers, Manufacturers and Dealers—Rate of Tax, Exemptions, and Registration Requirements—Penalty for Violations

Regulations relating to the manufacture, sale and importation of narcotics have been issued by the Bureau of Internal Revenue. The act of Dec. 17, 1914, as amended by the Revenue Act of 1918 provides for the registration with the Collector of Internal Revenue for the district in which he does business the name of every person "who imports, manufactures, produces, compounds, sells, deals in, dispenses or gives away opium or coca leaves, or any compound, manufacture, salt, derivative or preparation thereof."

Following are the rates of tax: Importers, manufacturers, producers or compounders or chemists, $24 a year; wholesale dealers, $12 a year; retail dealers, $6 a year; physicians, dentists, veterinary surgeons and other practitioners, $3 a year; manufacturers and dealers of exempt preparations, $1 a year. As a general rule a person engaged in several different business occupations at one or several different locations is liable to a separate tax with respect to each occupation or business.

The exemptions apply only to ready-made preparations and remedies compounded in accordance with the United States Pharmacopoeia, National Formulary, or other recognized and established formulas usually carried in stock and sold without a prescription. The preparation must contain active medicinal drugs other than narcotics in sufficient proportion to confer upon the preparation valuable medicinal qualities other than those possessed by the narcotic drugs alone.

Every manufacturer, producer, compounder or vendor of exempt preparations, including dispensing phycians, must keep record of such goods dispensed. Consumers and persons who cannot lawfully deal in narcotic drugs are not permitted to register. Persons who deal in narcotics without registration are liable to a fine of not more than $2,000 or imprisonment for not more than five years, or both.

Registration must be made on or before July 1 of each year. Persons who begin business after July 1 are required to make returns immediately covering the unexpired portion of the tax year ending June 30 following, and on or before July 1 annually thereafter. The names of the real owners must be disclosed if a business is carried on under a fictitious name, or that of a former owner. If owned by a partnership, the name of each partner must appear. In the case of a corporation the names of the principal officers must be shown.

Every person, firm or corporation making application for registry must prepare, under oath or affirmation, an inventory of all narcotic drugs and preparations within the scope of the law, excluding certain exempt preparations, on hand on the date of application. Collectors will refuse to register any applicant who fails to furnish a copy of the inventory.

Loeffler's Solution: Menthol and Toluol Paint

Menthol	10 grams
Alcohol	60 Cc.
Solution of ferric chloride ...	4 Cc.
Toluol, enough to make	100 Cc

Used as antiseptic application to false membrane of diphtheria (proposed for use in A. Ph. A. Recipe Book).

Professional & Trade Associations

ILLINOIS Ph.A. TO MEET IN ROCKFORD

Proceedings of 1919 Show Names of Pharmacists in Army or Navy Service—Nominations for Membership on Examining Committee and Advisory Board

The semi-annual meeting of the Executive Committee of the Illinois Pharmaceutical Association, held at the University of Illinois School of Pharmacy, Chicago, in November, was well attended. President Wheatcroft presided. Secretary Day reported briefly, stating that thirteen new members had been secured since the convention and the proceedings of the convention were now ready for distribution. These proceedings contain the minutes of the Peoria Convention, a summary and explanation of the pharmacy law, a revised list of the members and a list of over five hundred pharmacists who have given service in the army and navy. Copies of the proceedings were distributed to the members of the committee. He also reported that the instructions of the association in regard to resolutions, etc., had been carried out.

The treasurer reported $1,700 as invested in bonds and interest-bearing certificates and $1,386.54 as the current bank balance.

Secretary Baldwin presented an invitation from the retail druggists of Rockford to hold the next annual convention of the association in that city. The invitation was accepted, and it was decided to hold the next annual convention in Rockford, on June 22, 23 and 24. The arrangements for the convention are left to the officers of the association and the officers of the Travelers.

As a result of a caucus for nominees for the Pharmaceutical Examining Committee and the Advisory Board, the following lists of nominees were presented:

Examining Committee—O. P. Stephen, George Foster, A. E. Zuber, Charles Friesenecker, C. C. Foucek, S. L. Antonow, T. Mygdal, B. A. C. Hoelzer, J. A. Topf and Carl Warner, Chicago; C. F. Wm. Schultz, Elgin; Mark L. Smith, Ottawa; Robt. W. Sterling, Dixon; Hugh Marshall, Monmouth; C. H. Schneider, Orion; John H. Harach, Peoria; H. G. Frey, Bloomington; Frank Johnson, Danville; F. M. Leslie, Urbana; W. S. Denton, Beardstown; Fred W. Metzger, Springfield; A. D. Horstman, East St. Louis; C. F. Greer, Centralia; C. E. Webber, Equality; G. G. Dillow, Anna.

Advisory Board—W. N. Forsyth, T. Schmid, R. R. Pegram, R. G. Zaleski, Leo Mrazek, J. S. Bartkowski, H. F. Schaper, Ad. Umenhofer and Frank Ahlborn, of Chicago; H. B. Honens, Oak Park; H. A. Stillman, Joliet; W. J. Clancy, LaSalle; J. D. Charters, Ashton; H. G. Carlson, Moline; Hugh Hill, Kewanee; O. D. Ehrlicher, Pekin; H. W. Giese, Bloomington; C. H. Baum, Danville; W. A. Dukes, St. Joseph; J. F. Shreve, Jacksonville; G. E. Baumann, Springfield; Robt. Howard, East St. Louis; L. H. Byrd, Centralia; Wm. A. Ball, Carmi, F. N. Hewitt, Carbondale.

The secretary was instructed to submit these lists to the State Department of Education and Registration and the President of the University respectively. The president and secretary were authorized to fill such vacancies as might be necessary on the lists.

James H. Beal, C. M. Snow and J. H. Riemenschneider were named as delegates from the Illinois Pharmaceutical Association to the next Pharmacopoeial Convention. An appropriation of $50 toward the expense of each of these three delegates was made.

The contract with C. R. D. A. News for publication of an I.Ph.A. number each month was discussed. Upon motion of Mr Baum an appropriation was made to defray the expense of this publication with the understanding that the president and secretary of the association would confer with the Publication Committee of the News as directed by the convention and agree upon a reasonable amount sufficient to cover the cost of this I.Ph.A. Supplement. An appropriation of $25 was made to cover the expense of the editor of the I.Ph.A. News in attending the next annual convention.

The discussion of the membership campaign led by Chairman Antonow developed a number of interesting features. It was urged that the co-operation of the Travelers be secured in the effort to increase the membership; also that members of the association throughout the State be asked to aid by their personal efforts in this campaign; the importance of personal solicitation was emphasized.

Patrick Coffey, representing the Drug Clerks' Organization, was given the floor, and he made a plea for co-operation between the clerks and the proprietors. He promised to bring into the association, in a body, the membership of his organization.

Mr. Boehm and Mr. Crowley presented in a very interesting manner a discussion of educational and legislative affairs in the State.

SPECIAL MEETING OF MAINE PHARMACISTS

At a special meeting of the Maine Pharmaceutical Association, held recently in Portland, every officer was present, and every county in the State was represented but two. The meeting was called to receive and vote on applications for membership, and to consider the matter of eliminating the sale of narcotic drugs. There were two hundred and thirty-four applications received, and all of the applicants were elected to membership. The following resolutions were unanimously adopted:

"Whereas, recent developments incidental to the enforcement of the Harrison Narcotic Law have provoked widespread discussion and dissatisfaction, be it

"Resolved, That the Maine Pharmaceutical Association in special session assembled, emphatically endorse the Harrison Law, and, further, that we cheerfully accept the necessary labor, expense and responsibility incidental to the keeping of the necessary records."

W. A. Carroll, special narcotic inspector from the Boston office was present, and in his very pleasant and pleasing manner went over the law and answered all questions propounded to him. There was a general discussion on the various rulings made, which was entered into by many prominent druggists of the State. Great dissatisfaction has been felt at the manner in which inspectors have collected fines and compelled druggists to take out stamps that they considered not necessary, the majority of which cases were simply on technical points. Different inspectors have given decisions, and the result has been that there have been a great many protests made. If all the officers had given the same rulings, much trouble would have been saved.

Hon. Wilford G. Chapman of Portland, as counsel for the association, listened very attentively to the discussion, asking a few questions himself, and in his remarks expressed the belief that what has most troubled the druggists was not the law, but the rulings on it.

He was of the opinion that the ruling which exacted the manufacturer's stamp if a package was broken and sold on an order blank, was operating as a hardship, and questioned the point as to whether this ruling was in accordance with the spirit of the law.

A committee consisting of E. F. Carswell of Gorham, S. L. White of Houlton, Harry C. Riddle of Rangeley, G. W. Rankin of Portland, A. W. Meserve of Kennebunk, Dr. M. L. Porter of Danforth, Geo. O. Tuttle of Portland, Geo. K. Elder of Lewiston, Fred H. Neal of Fairfield and Harry H. Nutter of Pittsfield were selected to consider the matter of eliminating the sale of narcotic drugs, and report at a meeting of the association to be held before June 30, 1920.

RECOGNITION OF PHARMACISTS' SERVICE

The 105th meeting of the Chicago Branch of the American Pharmaceutical Association was held Tuesday evening, Nov. 18, at the City Club, Chicago. The occasion was a reunion of the pharmaceutical ex-service men resident in and adjacent to Chicago.

H. C. Christensen presented the Service Roll of Illinois pharmacists who served in the Army, Navy or Marines during the recent war. The roll contains seven hundred names and complete data of service, so far as it was possible to obtain it, for each man. This list was suggested a year ago at a meeting of the Chicago Branch. F. C. Dodds, Superintendent of Registration of Illinois was asked to enclose with the certificates to Illinois pharmacists a blank form for information regarding such service. This information was then tabulated by Secretary Gathercoal, of the Chicago Branch, and prepared for printing by Secretary Day, of the Illinois Pharmaceutical Association, which organization is having a large number of copies printed for distribution.

Dr. Robert Fischelis, of Philadelphia, on behalf of the American Pharmaceutical Association, presented to each ex-service man present, not already a member of the association, a membership for 1920.

The audience very highly appreciated, and was deeply and emotionally stirred, by "The Story of the War," as told by seven of the boys who described some of their actual experiences. The first young man told about "Going Across"; the next followed with "Waiting for the Firing Line;" then came "The Barrage," "Scouting in the Air," "Over the Top," "The Boy Who Didn't Get Across," and "Back Home."

A fine appreciation was received from Governor F. O. Lowden, as follows:

> To the Chicago Branch of the American Pharmaceutical Association:
>
> I have heard of the very fine memorial to be dedicated tomorrow evening of the services rendered to their country by members of the pharmaceutical profession. These fine young men have earned the right to be remembered by future generations, and I congratulate you upon the zeal and promptness with which you are giving them recognition. I wish it might be possible for me to be present and add my word of tribute, but official duties hold me here.
>
> Very sincerely yours,
> Frank O. Lowden.

The meeting was honored by the presence of the Executive Committee of the National Association of Retail Druggists, including: Theodore F. Hagenow, of St. Louis, president; Charles S. Huhn, of Minneapolis, Minn., chairman; S. C. Henry, of Chicago, secretary; J. F. Finneran, of Boston; R. J. Frick, of Louisville; Charles F. Harding, of Cincinnati, Ohio; E. C. Brokmeyer, of Washington, attorney.

At the December meeting of the Chicago branch, at the La Salle Hotel, Secretary Gathercoal announced that seventy new members, mostly soldier and sailor members, had been received since the last meeting. A Nominating Committee, consisting of C. M. Snow, C. H. Christensen and William Gray, was appointed to report at the meeting to be held in January.

Roscoe E. Doolittle, district director of the Bureau of Chemistry, United States Department of Agriculture, gave a very able address on "Methods of Handling Imports of Food and Drug Products," and discussed the nature and effect of the various laws under which imports are checked as to genuineness and quality. He referred especially to the first enactment for the control of the quality of imported drugs, that of 1848, and the Tea act of 1868, both of which are still in use and enforced by the Treasury Department. As illustrating the methods followed in importation, the speaker traced the course of a lot of imported drugs from the time the lot appeared before the American consul in the country of export to the point of actual possession without restrictions by the importer. He concluded with a discussion of the effect of the war on drug imports, the changed conditions of drug importation since the war, and the rise of Japan as a drug exporting nation.

Prof. W. B. Day brought out in the discussion which followed the fact that the American Pharmaceutical Association was organized in 1851 for the express purpose of improving the quality of American drugs. Mr. Doolittle's address was warmly received, and request for publication will be asked of Dr. C. L. Alsberg, the chief of the Bureau of Chemistry.

The meeting of the branch was preceded by a well attended dinner.

PITTSBURGH BRANCH

After a lapse of several months the Pittsburgh branch of the A.Ph.A. held its initial meeting for the winter session on Tuesday evening, Dec. 9, at the College of Pharmacy, President L. K. Darbaker presiding. The question of whether the A.Ph.A. Year Book shall be discontinued and its twin query of whether the dues shall be increased so that every present feature of the parent association's activity may be continued without financial loss was taken up for consideration and discussion.

Dr. J. A. Koch in introducing a motion said that while the cost of getting out the Year Book is high, its value to the members who appreciate the annual volume is great, and to discontinue its publication would, in his judgment, be a mistake. He moved that the proposition to increase the annual dues to $7.50 be indorsed, and that the proposal to have more than one class of members, viz., those who wanted the Year Book at the increased dues, and those who preferred the old rate of dues without the Year Book, as has been advocated by some, be disapproved, and that the Journal, the Year Book and all other present publications of the association be continued. The resolution was adopted.

The National Prohibition law and the relation of the pharmacist thereto was presented for discussion and after full consideration, the following resolution was unanimously adopted:

Whereas, The purpose of the National Prohibition Law is to confine the sale of spiritous liquors to medicinal purposes only, and

Whereas, Under the said law the pharmacist is obliged to give bond in the sum of one thousand dollars that he will faithfully carry out its provisions in so far as the sale of spiritous liquors is concerned, and

Whereas, In the past the pharmacist has been obliged to take out a license as a retail liquor dealer for the privilege of dispensing spiritous liquors for the use of the sick in compliance with the prescription of a legitimate physician, therefore, be it

Resolved, That the Pittsburgh Branch of the American Pharmaceutical Association hereby places itself on record as being opposed to all reference in the public press of pharmacists as retail liquor dealers, inasmuch as the pharmacist is a public servant in the capacity of supplying medicine, while under the law he is made to appear as a bonded distributor of spiritous liquors as a medicine only, and not for beverage purposes, and be it further

Resolved, That a copy of these resolutions be sent to the Commissioner of Internal Revenue at Washington, to the Collector of Internal Revenue in the 23rd District of Pennsylvania and to the public press.

Working for War Veterans Section

The action of the 1919 meeting of the A.Ph.A. in extending an invitation to all returned soldiers and sailors who are identified with pharmacy to become affiliated with the association without payment of dues for the first year was heartily endorsed, and the secretary instructed to secure additional application blanks. Dr. Koch agreed to give this invitation wide publicity for reason that it will give a large number of pharmacists an insight into the valuable work of the association, and thus cause them to continue in affiliation. A committee, consisting of five members, was appointed, with A. E. Baier, a present A.Ph.A. member and a returned soldier, as chairman, to secure the names of returned soldiers and sailors who have seen service and are identified with pharmacy and to secure their application for membership.

The Committee on Nominations reported the following nominees, and the secretary was empowered to cast the ballot for their election: President, Leasure K. Darbaker; vice-president, A. E. Baier; secretary, B. E. Pritchard; treasurer, P. Henry Utech.

After the regular business was concluded, Jacob Winters, a student of the College of Pharmacy and a returned soldier, entertained the meeting with a series of interesting views of high spots in and about Paris, as well as many snap shot pictures taken by his own camera of scenes on the battlefield, No Man's Land and in the trenches, a courtesy which was greatly appreciated.

President Darbaker announced his intention of holding regular meetings hereafter and requested the cooperation of everybody in making the proceedings interesting and instructive.

PHILADELPHIA BRANCH

At the November meeting of the Philadelphia Branch of the A.Ph.A. the Committee on Resolution on the death of the late F. M. Apple, consisting of E. G. Eberle, W. L. Cliffe and J. C. Peacock, presented the following resolution which was adopted:

Whereas, on July 14, 1919 Death did claim our fellow-member, Franklin Muhlenberg Apple, and whereas his interest and activity in the work of the Philadelphia Branch of the American Pharmaceutical Association have long been recognized and appreciated; Be it therefore

Resolved by this Branch, that mention of our loss through his death be made upon the minutes; And as a further token of our appreciation of his interest and activity, be it further

Resolved that a copy of this resolution be forwarded to Mrs. Franklin M. Apple, to whom in so doing we extend the sincere sympathy of the Philadelphia Branch of the American Pharmaceutical Association.

The Membership Committee reported eighteen new members directly due to the recent drive among A.Ph.A. members not affiliated with the Local Branch. The chairman, J. C. Peacock, was complimented on his excellent work, and a motion was adopted directing that a copy of his letter appealing for memberships be mailed to the secretaries of all the Local Branches of the A.Ph.A.

A communication was read from W. D. Walters, secretary of the World War Veterans' Section, calling attention to the work of the section and asking for cooperation.

A resolution from the New York Branch on the question of A.Ph.A. dues and publications was read and was the basis of considerable discussion. The resolution urged action to induce the Executive Committee and the Council to submit the problem of A.Ph.A. dues and publications to the entire membership in the form of a post-card referendum giving each member the opportunity of choosing one of several options.

The discussion was opened by a paper by J. W. England, entitled "Query: The Year Book or an Abstract Journal, Which? Answer: Both."

Mr. England emphasized that his paper embodied personal opinions only. He felt that a referendum vote was out of order at this time on account of the action taken at the New York Convention. His suggestion was that, inasmuch as the entire problem was essentially one of finances, it could be solved best, perhaps, by a classified membership with certain services, each class with certain dues.

Charles H. LaWall thought that Mr. England's paper was an excellent analysis of the whole subject, and in an entirely new light, and he approved the suggestions made.

Robert P. Fischelis discussed the paper and thought it a mistake to make any changes except that of raising the dues. He did not believe that memberships for prestige only would be beneficial to the members or the association. He expressed the thought, also, that abstracts printed in the Journal monthly would practically duplicate the Year Book.

Wants Year Book Continued

Julius W. Sturmer spoke for a continuance of the present system, and for raising the dues to $7.50; also, that if the abstracts were printed in journal form they would in most cases never be bound and thus end in waste paper, whereas the Year Book was a bound volume and most useful as a permanent reference book. Concerning the proposition of associate members who would receive no Journal or other service, he believed it would be useless, because the association would not be kept in touch with such members.

E. G. Eberle in discussing the paper made a motion that a copy of Mr. England's paper be sent to all the local branches and the Executive Committee of the Council, and this was amended by Charles H. LaWall that an abstract of the discussion be sent also. This motion carried. Edward T. Hahn expressed his opinion in favor of one fixed membership at a fixed amount of dues, this amount to be in keeping with the expenses incurred in rendering the members service, whether or not this service included the Year Book. Charles H. LaWall made a motion that Mr. England's paper be received and that the resolution of the New York Branch be referred without recommendation to the Executive Committee of the Council, the opinion being expressed that a referendum vote at this time would be out of order, as the association at its last general session had referred the entire matter to the Executive Committee. The motion carried.

The scientific programme followed. E. Fullerton Cook presented the subject, "Notes on Some of the Newer Remedies." The paper included a very interesting discussion of the use and pharmacy of benzyl benzoate, benzyl alcohol and also the zinc chloride treatment of wounds by Babcock.

Louis Gershenfeld very interestingly presented "Demonstrations in Clinical Technic." This subject was one of a series to be presented, if the attendance warrants the elaborate preparation necessary. The estimation of hemoglobin and the counting of blood cells were explained and demonstrated by the various instruments used in such work. A short discussion followed which resulted in a vote of thanks to the contributors to the programme and a desire for more meetings equally as interesting.

Robert P. Fischelis presented the following resolution which was adopted and directed to be sent to the secretaries of the local branches for action.

Druggists Not Liquor Dealers

> Whereas, the pharmacist is so frequently alluded to as a retail dealer in public print and especially so since the enforcement of wartime prohibition, and
>
> Whereas, no pharmacist has ever been licensed to dispense liquors because of his being a pharmacist, and
>
> Whereas, pharmacists may not dispense liquors even on prescription except according to certain Federal regulations, be it therefore
>
> Resolved, that the Philadelphia Branch of the American Pharmaceutical Association go on record as opposing such allusion in public print and protest to the proper authorities against misleading classification in regulations covering the use and sale of liquors, and be it further.
>
> Resolved, that this resolution be sent to the Secretaries of the Local Branches of the American Pharmaceutical Association and to the Collector of Internal Revenue at Washington.

At the December meeting of the Philadelphia branch, C. B. Lowe expressed his appreciation of the resolution passed at the November meeting dealing with the classification of pharmacists with retail liquor dealers.

The proposed "Welcome Home" celebration to be held by the drug interests of Philadelphia for the returned soldier and sailor pharmacists was discussed by Edward T. Hahn. The branch favored the project, and its officers were instructed to give all possible co-operation to make the event a success. A communication from the World Trade Club was read. It dealt with the passing of legislation making the use of the metric system compulsory. Inasmuch as the parent body already is on record favoring such action, the local branch officers were instructed to sign the endorsement and forward it to the proper authorities. This ended the business programme. The scientific programme followed.

Dr. Henry Leffman presented an interesting illustrated lecture on the "Newer Applications of the Use of Polarized Light in Detecting Chemical Compounds." Dr. Leffmann outlined this comparatively new field of chemistry in a comprehensive manner, explaining the various phenomena in language understandable to all. His lecture was followed by an interesting discussion.

Edward T. Hahn gave a talk on "Sales and How They Are Made," which was centered on what he termed the "Rules of Sale." Sales, in his mind, were divided into four distinct steps: Attention, interest, desire and sale. Each step was considered separately. Ivor Griffith followed with "Practical Urinalysis."

Approximately eighty persons attended the meeting, which was probably the most profitable session of the branch held this year.

BROOKLYN PHARMACISTS TO FORM CLUB

The "Scruple," an organization recently formed in Brooklyn, N. Y., to "promote the spirit of brotherhood" among the members of the pharmaceutical profession, elected the following officers at its last meeting: President, Albert A. Recca; vice-president, Joseph Baum; secretary, Louis Cohen; sergeant-at-arms, Nathan Agris; editor, Isidor Katzke; treasurer, Isidor Ehrlich. The membership of the organization is limited to those engaged in pharmacy.

N.Y.R.D.'s TWENTY-THIRD ANNUAL DANCE

The New York Retail Druggists' Association will hold its twenty-third annual banquet and dance at the Hotel Astor, New York City, on Jan. 30, and plans have already been developed to make this the greatest social event in the history of the association. The programme is in charge of the following druggists: General chairman, Isidore Moes, 160 Lenox Avenue; chairman, Downtown division, M. M. Rosenberg, 22 Avenue A; chairman, Harlem division, Julius Klein, 1449 Madison Avenue; treasurer of Banquet Committee, Pincus Herz, 331 Lexington Avenue; chairmen of committees—Floor, A. Margulis; Reception, B. Miller; Entertainment, Edward Sher; Programme, Louis Bernstein.

CHEMISTS DISCUSS PROHIBITION ACT

The Eastern Division of the American Association of Pharmaceutical Chemists discussed the effect of the prohibition act on the manufacture and sale of drug preparations, at the annual meeting of the association at the McAlpin Hotel, New York. It was agreed to submit to the Internal Revenue Bureau a list of those products of the legality of which there was doubt in the minds of the chemists for immediate ruling, so that there could be no question of any attempt at an evasion of the law.

In conformity with the action taken at the meeting of the Western branch a resolution was passed that "it was the sense of the meeting that the members are definitely committed as being opposed to the manufacture and sale of heroin, and of any formulas containing this drug."

Attempts to procure sugar from the Sugar Equalization Board had met with little success, it was stated, and the output of preparations containing sugar had been of necessity greatly curtailed. A resolution was passed calling on the Government to recognize the drug industry as an essential industry, and to favor it accordingly in the distribution of sugar, in order that the sick might be provided for. This is the busy season in the trade, it was pointed out, and the epidemic of coughs and colds that occurs at this time makes it essential that a maximum of production be maintained.

Harry Noonan, of the Drugs Products Co., Inc., president of the association, presided at the meeting. The other members present were: J. H. Foy, Maltby Chemical Co., of Newark; C. C. Doll, Zimmer Co., of Pittsburgh; Ralph Patch, of E. L. Patch & Co., of Boston; F. L. H. Mason, of Talby & Mason, of Boston; George C. Pratt, National Drug Co., of Philadelphia; Dr. W. C. Abbott, of Abbott Laboratories, Chicago; Dr. C. H. Searle, of G. D. Searle & Co., of Chicago; T. R. M. Loud, of N. Y. Quinine and Chemical Works; R. Hendrickson, of Smith, Kline & French, of Philadelphia; H. F. Snider, of R. J. Strasenburg Co., of Rochester, and C. D. Smith, of C. D. Smith Pharmacal Co.

The annual meeting of the association will be held in Chicago, in June, 1920, at the Edgewater Beach Hotel.

BALTIMORE DRUG EXCHANGE ELECTION

Baltimore, Md., Dec. 9.—The Baltimore Drug Exchange has elected the following officers: President, John C. Muth, of Muth Bros. & Co.; first vice-president, Alfred E. Mealy, of Gilbert Bros. & Co.; second vice-president, William R. Sailer, of Sharp & Dohme; secretary, George M. Armour, of McCormick & Co.; treasurer, H. H. Robinson, of H. B. Gilpin Company. Executive Committee (in addition to the general officers) —James E. Hancock, of John F. Hancock & Son; Philip I. Heuisler, of Emerson Drug Company, and J. Emory Bond, of Parke, Davis & Co.

The members listened to reports of committees on drug legislation, including a bill to put the enforcement of all drug laws under the authority of a drug commission.

The New Hampshire Board of Pharmacy will hold its next meeting on Thursday, Jan. 29, Secretary James L. Dow, Lancaster, informs the Era that the December, 1919, meeting of the board was omitted.

Obituaries

DEAN CLARENCE M. McKELLIPS

C. M. McKellips

Prof. Clarence M. McKellips, until recently dean of the North Pacific College of Pharmacy, Portland, Ore., died on Dec. 14 at his residence in that city. He was born fifty-three years ago at Connorsville, Ind., where he early entered the drug business. He later entered the School of Pharmacy of Purdue University, and after graduating as a Ph.C. in the class of 1896, took a post-graduate course and became an instructor in that institution. In 1898 he became head of the department of pharmacy of the Oregon Agricultural College at Corvallis, remaining in that position until 1913, when he moved to Portland and became dean of the North Pacific College. Last spring, on account of ill health, he was forced to resign and to retire from work. He was a member of the American Pharmaceutical Association, and had been an active worker for the educational uplift of pharmacists in his adopted State. His widow survives him.

EMILE STRUPLERE

Emile Struplere, for the past seven years manager of the Owl Drug Company's store in Portland, Ore., died on Dec. 9, while being taken in an ambulance from a hotel in Los Angeles, Cal., to a hospital. The hospital physician pronounced his death due to poisoning caused, it is believed, by on accidental dose of a tonic he had been taking. He had been in poor health since last winter, when he suffered a severe attack of influenza, and had gone to Southern California to recuperate on the advice of the Owl company's officials. He was a native of Switzerland, and was forty-five years of age at the time of his death. He is survived by a widow and a daughter, both of whom reside in Portland. He was a member of the Portland Chamber of Commerce, the Portland Ad Club and the Order of the Mystic Shrine.

LESLIE O. WALLACE

Leslie O. Wallace, a prominent druggist of Auburn, N. Y., formerly connected with the McGovern Drug Co., died at the Auburn City Hospital on Dec. 4, following a prolonged illness and nervous breakdown due to overwork during the period of shortage of help when the war activities were at their height. Mr. Wallace had been in the drug business for about thirty-five years, fifteen of which he was proprietor of a pharmacy at Jamaica Plain, a suburb of Boston. He is survived by two sons and his widow, Mrs. Emma Gary Wallace, a past president of the Women's Organization of the N. A. R. D., and well-known to readers of the Era through her connection with "Women in Pharmacy," a department conducted by her in this journal for many years.

JOHN TAPAN STODDARD

John Tapan Stoddard, professor of chemistry for nearly forty years at Smith College, died Dec. 9 in Northampton, Mass. He was sixty-seven years of age. He was born in Northampton, and was graduated from Amherst College in 1874. After specializing in physics and chemistry for a time, he went abroad for further study in Goettingen, Germany, and upon his return became professor of mathematics and physics. In 1881 he was made professor of physics and chemistry, serving until 1897, when he became professor of chemistry, which position he retained up to his death. He was the author of several textbooks on chemistry used in many colleges, and contributed many articles on this subject to magazines and encyclopedias. He was also the author of a book on "The Science of Billiards."

CHARLES H. WARREN

Charles Herbert Warren, seventy-one years of age, probably the oldest druggist in Richmond, Va., died Nov. 26. His death came as the result of a stroke of paralysis which he suffered some days previously. Mr. Warren is survived by his widow, Mrs. Lena Bowis Warren, and one brother, Captain William E. Warren, of Richmond.

NEW FOOD OIL FROM GRAPE SEED

A new food oil is being derived from the grape. It is pressed from the seeds which formerly were discarded. This recently discovered by-product has been tested by scientists who say that it is edible and nutritious and may become a rival of olive and cottonseed oils for cooking and for salad dressing. The news has given comfort to growers of the vine in California, Ohio and New York State as the preparation of the oil on a large scale may increase the profits from grape juice. Even after the oil has been pressed out the residue of the seeds is found to be of value as a feed for animals.

Dr. J. H. Shrader, who is connected with the Bureau of Plant Industry, of the U. S. Department of Agriculture, has made extensive investigations in the commercial utilization of grape seed. In a paper read before the Division of Industrial Chemists and Chemical Engineers, of the American Chemical Society, he suggested that all waste of this character from the vineyards and canneries be assembled at a center, so that there will be enough tonnage to make its fabrication profitable.

"In the grape-juice industry," he says, "the grapes are pressed in ordinary cider presses to obtain the juice. The skins, seeds and pulp remain behind in the cloths. The total tonnage of grapes pressed for juice in the grape belts of New York, Ohio and Michigan, was ascertained directly from the firms for each of the past five years in order to strike a fair average. From these figures, a pomace yield of 20 per cent was calculated which in turn yielded one-quarter seed, one-quarter dry skins, and one-half water.

"A method has been worked out and operated in the laboratory on a semi-commercial scale whereby grape seed can be separated from wet grape pomace without recourse to drying. The seed separation will enable the producer to take out his seed from the balance of the waste at each pulping and pressing station. This makes him independent of the necessity of shipping all of his waste to the central plant, when freight rates make such shipment prohibitive."

Because of the shortness of the grape-juice pressing season which lasts from September to November, this well-known agricultural chemist has estimated on a plant only large enough to dry the maximum amount of seed and then press it in winter months. He calculates that a charge of $9 per ton of raw material is allowed for drying and handling from freight cars to storage bins, while $15 to the ton of dry grape seed is allowed for expelling the oil and handling from the seed storage to the oil in tanks. This would include all overhead and management charges, except rent of property or interest on real estate investment.

Dr. Schrader believes that the efficiency of these plants could be increased by also extracting the oil from the seeds of tomatoes, as a great many such seeds are rejected in the making of catsup and in canning.

BUREAU OF CHEMISTRY'S RESEARCH WORK

Dr. Carl L. Alsberg Tells of Aid to Industry by Development of Dye Processes, Production of Citric Acid and Other Products—Improved Methods for Making Starch

Washington, D. C., Dec. 16.—Enforcing the Federal Food and Drugs Act, developing methods in food distribution, finding uses for waste products, aiding industrial development by working out technological processes, and reporting the results of chemical research are features of the work of the Bureau of Chemistry, U. S. Department of Agriculture, during the last fiscal year, as outlined in the recently published report of the Chemist and Chief of Bureau, Dr. Carl L. Alsberg.

Slack-filled cans, decomposed eggs, fake egg substitutes, butter containing excess water, glue sold as edible gelatin, olive oil adulterated with cheaper oils, frozen oranges, canned tomatoes adulterated with water, "soaked" oysters and scallops, cocoa adulterated with cacao shells, adulterated and misbranded vinegar, falsely labeled and adulterated stock feeds and misbranded medicines were among the violations of the Federal Food and Drugs Act on which 1,052 seizures and 843 criminal prosecutions, inaugurated during the year, were based. Other products involved in the regulatory activities because of adulteration or misbranding, or both, were beverages, extracts, flavors, candy, coffee, tea, food colors, milk, cream, crude drugs, pharmaceutical preparations, fruits, jams, jellies, lard, meat, poultry, nuts, sirups, spices, vegetables and water.

The first complete and critical survey of the fat and oil industry of the United States was made in co-operation with the United States Food Administration, and the results, with statistics of the industry, have been published.

For the purpose of conserving sugar, a number of substitutes were investigated and methods developed for using various substitutes in the manufacture of soft drinks. A valuable service was rendered the soft-drink industry, since many bottlers who were unable to secure sugar were saved from disaster. Some of the substitutes proved to have such merit that they probably will remain in permanent use. Sugar substitutes for use in baking and cooking were also recommended.

Corn cobs, one of the largest waste by-products of farming may now be utilized as the result of processes which have been worked out and patented for the preparation from corn cobs of adhesive gum and of the rare sugar xylose. Processes for converting xylose into substances which may be useful commercially have been patented and published.

Cull oranges and lemons not suitable because of size, shape or defects for shipment as fresh fruit are used for the manufacture of many useful foods and chemicals. A citrus by-products laboratory operated by the Bureau of Chemistry at Los Angeles, Cal., has worked out new methods for the manufacture of marmalade, vinegar, candied peel, juice, citrate of lime, citric acid and other products. As the result of this work, a profitable citrus by-products industry has been established on the Pacific Coast. Work is now under way in Florida.

Work to improve existing methods for the manufacture of starch from cull and surplus potatoes is under way. Methods for the manufacture on a small scale of sirup from sweet potatoes have been published.

Practical results are reported in work to aid in the development of the production of dyes, leather, naval stores, paper, fabrics and insecticides in addition to the technological work on foods. New processes for the manufacture of sensitizing dyes have been discovered and patent applications filed. A new dye of great value to physicists has been prepared. The new method for the production of phthalic anhydride, a valuable dye intermediary, is in successful and commercial use. A new photographic developer has been produced and the process published.

Reports on the production of naval stores, including gum rosin and gum turpentine, wood rosin and wood turpentine, have been published. Specifications on the properties, the sampling and the laboratory examination of turpentine have been prepared.

Equipment to produce insecticides and fungicides on a semi-commercial scale has been secured in order that manufacturing processes may be improved and that new types of useful insecticides and fungicides may be devised. Methods for the manufacture of calcium arsenate have been published.

The report of the chemist also mentions many scientific investigations relating to drugs, food nutrition and methods of analysis. The results of research, in so far as completed, have been published in various technical journals.

SPECIFICATIONS FOR REAGENTS

In the belief that a valuable service can be rendered both to the manufacturers and users of reagents and apparatus, through standardization, the American Chemical Society appointed a committee which is now organized and at present is collecting data regarding the quality of reagents on the market. It seems that in general the experience of users agrees with that of the Bureau of Chemistry, as reported by H. E. Buc, in the December number of the "Journal of Industrial and Engineering Chemistry." The chief complaints appear to be in regard to the lack of reliability of the analyses rather than unsatisfactory purity of the reagents themselves. It is also evident that in many instances impurities which have caused dissatisfaction could have been removed by exercising sufficient care in production.

It is requested that suggestions be sent to the secretary of the committee, W. D. Collins, Bureau of Chemistry, Washington, indicating the specifications which would be acceptable, the uses to which the reagents are put in any special case, and the methods which are satisfactory in determining the purity of the reagents and the presence and amount of objectionable impurities.

H. E. Buc says of the chemicals received by the Bureau of Chemistry during the war: About 1,300 shipments of chemicals from a large number of dealers and manufacturers have been tested in the Bureau of Chemistry. The greater part of the reagents bore an analysis on the label. Most of the chemicals examined are satisfactory. Occasional impurities are found often enough in chemicals from practically all manufacturers to make it necessary to test all shipments.

The standard acids, ammonia, alkali salts and alkali, and most of the organic solvents are generally satisfactory. The soluble salts other than alkali salts are generally acceptable but are seldom of a high degree of purity. Certain organic solvents and solids are either unobtainable or unsatisfactory. The insoluble products are generally unfit for use in analytical work.

Owing to the great shortage of ergot in Austria the Public Health Board has urgently requested agricultural undertakings and flour mills to collect all the ergot they may find and send it to the Economic Control Bureau for Medicaments in Vienna, which will pay 35 crowns for each kilo.

Schools and Colleges

MASSACHUSETTS

There are 307 students registered for 1919-1920, including 177 new students and 51 girls. The scholarships for the session have been awarded as follows: The Massachusetts State Pharmaceutical Association scholarship to Demetrius C. Capetanakis of Lowell; the Eastern Drug Company scholarship to Dorothy Markels of Springfield; the Brewer and Company scholarship of Leslie B. Barrett of Winsted, Connecticut; the Greenleaf memorial scholarship to Priscilla Cutler of Provincetown; the Baird memorial scholarship to Samuel A. Katz of Boston.

There have been some additions and changes in the teaching staff: Instructor Florin J. Amrhein has given up part of his work in analytical chemistry to take over the classes in general chemistry, as Dr. Frederick S. Schmidt, for many years instructor in that department resigned in the summer. Herbert E. Bowman, Ph.G., bacteriologist for the city of Somerville, has been appointed as acting instructor in materia medica and botany, as Mr. Burroughs is still in the American Red Cross service in France. Robert E. Bemis, Ph.G., has been appointed as instructor in chemistry, Galvin G. Page, A.B., M.D. (who is instructor in bacteriology at Harvard Medical School), as instructor in bacteriology. Instructor Bemis is also first assistant in the chemistry stock room, H. Benson Fenwick, a senior student, being second assistant. George C. Schicks, Jr., Ph.G., a graduate student, is first assistant in pharmacy, and Albert H. Wheeler, a senior student, is second assistant in pharmacy.

Eta Chapter of Phi Delta Chi has elected these officers for the year: President, Leslie B. Barrett; vice-president, D. Leo Hallissey; secretary, Dennis J. Horgan; treasurer, H. Benson Fenwick; chaplain, James J. Cohan; inner guard, Francis J. Connors.

Officers of Rho Pi Phi for the year were elected recently and later were installed at a meeting held at the Hotel Thorndike. The new officers are Israel Stone, oracle; Dorothy Markels, adjuvant oracle; Isaac I. Weiser, scribe; Samuel A. Katz, guardian of the exchequer; A. Robert Goodless, fiery dragon. The society later held a smoke talk in the Alumni Room, which was attended by some of the new students and by some graduate members and guests from Boston University.

PHARMACEUTICAL BOOK PLATES WANTED

Editor, The Pharmaceutical Era:

In order to be able to assist one of our students, majoring in art, who is making a special study of pharmaceutical book plates, I take the liberty to ask all persons or associations that have book plates to send specimen copies. Your kind co-operation in publishing this notice, as well as theirs, will be greatly appreciated. If librarians and other book lovers who know of such book plates, old as well as new, will kindly advise the writer of their discoveries, it should be possible to make the catalogue of pharmaceutical ex libris much more complete than would otherwise be the case. Trusting that this appeal may meet with many a response, I remain

Very truly yours,
Edward Kremers.

University of Wisconsin, Madison, Dec. 5.

WISCONSIN UNIVERSITY

Ninety students are enrolled in the Course in Pharmacy at the University of Wisconsin this year, an increase of 80 per cent. At a meeting of the pharmaceutical society composed of students of the department, held on Dec. 3, the following officers were elected: President, N. A. Philips; vice-president, Ben Johnson; treasurer, Anna M. Stephens; censor, Floy C. Rath.

NORTH CAROLINA UNIVERSITY

What has been characterized by Dean E. V. Howell as "the largest and most important gift the school of pharmacy at the University of North Carolina has ever received," has been made to the school by E. V. Zoeller, a well-known pharmacist of Tarboro, and for the last twenty years president of the North Carolina Pharmaceutical Board of Pharmacy. This gift comprises a series of bound and unbound pharmaceutical journals covering many of the better known American and some English publications. In all, there are more than a hundred volumes relating to the advancement of pharmacy in this country and abroad.

MEDICAL COLLEGE OF VIRGINIA

Prof. Albert Bolenbaugh, dean of the School of Pharmacy of the Medical College of Virginia is rapidly recuperating at his home, Canal-Winchester, Ohio, after several weeks of indisposition.

The course in commercial pharmacy, which has long been a feature of the school's curriculum, is now being conducted in a manner entirely different from what has been followed heretofore. The new plan consists of a series of lectures on the various phases of the commercial side of pharmacy by specialists, men who have had years of experience in their particular line. A number of the lectures have already been delivered, and results speak favorably for this method of teaching this subject, which, all things considered, is perhaps the most difficult in the whole curriculum.

VANDERBILT UNIVERSITY

The entering class for the year 1919-1920 is larger than it has been for five years, though the senior class is smaller. Seven States and the Republic of Panama are represented.

The Department of Chemistry has been reorganized with Dr. J. M. Breckinridge, professor of general chemistry; Dr. R. E. Kremers, professor of organic chemistry; Dr. C. L. Clark, professor of physical chemistry; Dr. E. H. Balz, professor of qualitative and quantitative chemistry.

Dr. J. T. McGill, former professor of organic chemistry and dean of the school of pharmacy, resigned last June, but is still connected with the school. Dr. W. H. Hollinshead, former professor of qualitative and quantitative chemistry, also resigned last June and is now professor of chemistry in Ward-Belmont College, Nashville.

Dr. E. A. Ruddiman, former secretary of the school of pharmacy, was elected dean at the June meeting of the Board of Trust.

O. V. R. Smith, with the Chicago branch of Parke, Davis & Co., delivered a course of four lectures before the students of the school of pharmacy. His subjects were: 1. Antitoxins; 2. Small Pox, Vaccine Virus, and Vaccination; 3. Bacterial Vaccines, Tuberculins and Phylactogens; 4. Drug Standardization. The various lectures were illustrated with slides.

Seventy-eight graduates and former students of the school of pharmacy were in the World War. Two graduates lost their lives in the service: Dr. Knowles Oglesby, Bartow, Fla., and John P. Hill, Alto, Texas.

PITTSBURGH

At the annual meeting of the Pittsburgh College of Pharmacy the following officers were elected: President, Louis Emanuel; first vice-president, E. A. Schaefer; second vice-president, George W. Kutscher; recording secretary, Peter G. Walter; treasurer, Carl Saalbach. Adolph Schmidt of McKeesport was elected to succeed the late William G. Schirmer as a member of the board of directors. The delegates to the pharmacopoeial convention elected were: J. A. Koch, Louis Saalbach and J. C. Wallace; alternates, George W. Kutscher, Adolph Schmidt and Peter G. Walter.

UNIVERSITY OF MINNESOTA

The first quarter of the College closed on Dec. 23, and the winter quarter begins on Friday, Jan. 2. New students cannot be admitted at the beginning of the winter quarter but those students who have sufficient advanced standing to enter classes already in progress may be admitted.

With the recent organization of the freshmen class, all classes of the College are now organized and cooperating in many things. The class officers are as follows: Senior Class—O. W. Guilbert, president; G. Hovland, vice-president; Margaret Boothroyd, secretary and treasurer. Junior Class—J. H. Blair, president; Josephine Nichols, vice-president; E. G. Swanson, secretary and treasurer. Freshmen Class—M. L. Severance, president; E. M. Hodel, vice-president; E. S. Sater, secretary and treasurer. Students' Council—Victor Jones, chairman; Myrtle Abrahamson, secretary and treasurer.

The weekly exhibits prepared by students of the Department of Pharmacognosy and in which many living medicinal plants and crude drugs and their preparations are displayed for more convenient study, are proving very interesting and valuable. Practicng pharmacists are invited to view the exhibts at any time.

Mrs. Wullng entertained the ten women of the senior class at her home on Saturday afternoon, Nov. 15. Plans were laid for reviving the College Spatula Club whose membership consists entirely of Pharmacy College women. The thirty-one women students in attendance are contemplating the establishment of a Pharmacy Women's Sorority, and the likelihood is that such an organization will soon be started.

The one hundred and fifteen Pharmacy students comprising the pharmacy student body, are asserting themselves affirmatively in many ways, taking part in practically all of the larger University scholastic, social and athletic activities.

About six weeks ago the juniors gave a dance at Shevlin Hall in compliment to the freshmen and senior classes. The freshmen soon after reciprocated by giving a similar party in the Men's Union. The success of these undertakings was so pronounced that all classes combined and gave an all University ball in the armory on Friday evening, Nov. 21. The pharmacists had never heretofore undertaken so ambitious a progrmme, but their confidence that they could carry out successfully any undertaking that other colleges have attempted, was fully justified by the very satisfactory success of the ball. The armory was fairly well filled with students from all of the other colleges. Dr. and Mrs. Newcomb and Dr. and Mrs. Rogers were among the chaperones. Dean and Mrs. Wulling came later in the evening.

The Pharmacy classes were dismissed for the sixth period on Monday, Nov. 17, to enable them to hear the Hon. A. F. Whyte, former member of Parliament and now one of the prominent political leaders of England, who spoke most instructively on the Labor and Political Situation in England.

Dean Wulling was honored by a day's visit by Mr. and Mrs. W. H. Saunders of Liverpool, England, who are making a tour of the world and who came to Minneapolis especially to inspect the College of Pharmacy of which they had heard so much in England Mr. Saunders is a wholesale druggist and one of the prominent citizens of Liverpool. He was greatly impressed with the College, equipment and faculty, and claimed that England had no institution comparable with the College.

LOUISVILLE

The Board of Directors of the Louisville College of Pharmacy reports progress for a movement it originated to raise a fund of $10,000 with which to free the institution of all indebtedness. The Campaign Committee having the matter in charge, recently appointed by President Simon N. Jones, consists of John J. Seiberz, William Votteler and Robert J. Frick. Druggists of the State, graduates of the college, and the public will be called upon to contribute to the fund.

Recent reports of Dean Oscar C. Dilly and Treasurer William Tafel show the largest enrollment of students in the history of the college. Extra space will be provided and equipment installed for another dispensing department, which will increase the floor space about one-third, money for these improvements being now available.

Recently the board of directors presented to President Simon N. Jones, in appreciation of his services, a life-size picture of himself, which has been hung in the directors' room. The presentation was made by Robert J. Frick.

UNIVERSITY OF OKLAHOMA

The School of Pharmacy of the University of Oklahoma recently moved into new quarters on the third floor of the chemistry building. The laboratories are being equipped for next semester's work in the new building, while the new library and reading room already installed on the second floor of the chemistry building make reference work very convenient for the pharmacy students. The room is open every afternoon and evening, except Saturdays, when it is open in the forenoon.

The total enrollment since the beginning of the college year on Sept. 15 is 135 students, the largest the school has ever had, the new quarters assigned a few years ago in the chemistry building for the pharmacy students being now only half large enough to accommodate the classes. As a result, the pharmacy students are using the laboratory and class rooms of the chemistry department.

The prescription rooms are being equipped with cases to allow each student and each applicant who takes the State board practical examination to work in a private department completely equipped on a small scale, similar to that needed for his future work in the drug store.

Dr. Howard S. Browne, former dean of the School of Pharmacy, who received his M.D. degree from the

University of Illinois last February, resigned on Sept. 1, and has since opened an office at Ponca City, where he will practice medicine. Following his resignation, Prof. D. B. R. Johnson was elected dean of the school. W. R. Jarrett and R. L. Sanford, members of the Oklahoma board of pharmacy, have been appointed lecturers on the faculty of the school.

The School of Pharmacy now boasts of a No. 1 football team, a basketball team and an eight-piece orchestra.

IOWA UNIVERSITY

The University celebrated Iowa day by an open air meeting on the Old Capitol Oval, where Col. Mumma delivered a short address and Dr. Clapp led in singing of America and Old Gold. Flag raising and retreat were also features of the program.

The following members of the 1921 class have been pledged to the Phi Delta Chi fraternity; J. W. Graham, Missouri Valley; S. S. Goodspeed, Spencer; G. R. Huff, Rockwell City; H. A. Kriebs, Elkport; R. J. Hilliard, Vinton; and A. S. Hoistendahl, Canton, S. D.

W. H. Carter, '21, of Rockwell City, will be the official representative of students of the college at the Chicago game, he being the winner of the lucky number.

J. M. Severeid, '18, has just received his discharge from the navy and is spending a short time at his home at Story City, Iowa.

S. L. Bickal, of Ft. Dodge, and Fred Miller, of Spirit Lake, both of the class of '21, are pledged to the Sigma Pi fraternity.

The men's new dormitory is to be officially known as the Quadrangle. The building is in an excellent location west of the river and will house three hundred men comfortably.

ONTARIO

The regular semi-annual meeting of the Council of the Ontario College of Pharmacy was held in Toronto recently, and the following officers elected: President, C. E. Adams, Sault Ste. Marie; vice-president, Burwell Griffin, Hamilton; registrar and treasurer, W. B. Graham, Toronto, re-elected for the fourteenth year. The agreement with the Saskatchewan Pharmaceutical Association to register graduates of the College and all who had served their apprenticeship in Ontario, without an examination was renewed. Saskatchewan is the only province which has a reciprocal agreement with Ontario to this effect.

PEACE TREATY ON CONTROL OF OPIUM

The annual report of the Commissioner of Internal Revenue said in regard to traffic in narcotic drugs:

"Under the proposed constitution of the League of Nations (article 23 of the covenant) it is provided that authority be given that body to perfect the ratification of The Hague Opium Convention and to promulgate necessary regulations for carrying out its terms. Until some such action can be secured through international agreement it seems improbable that the drug trade in this or any other country can be adequately policed.

"In the meantime it is desirable that some definite temporary arrangement be made between this country and Canada and Mexico for the purpose of putting a stop to the smuggling of large quantities of drugs from these countries into the United States. During the year 27,356 violations of the Harrison narcotic law were reported, including technical violations and violations of the administrative regulation."

Importations on quinine salts during the nine months ended with September, 1919, amounted to 2,912,850 ounces against 1,594,008 in the same time last year and 814,822 in the corresponding period two years ago.

DRUGGISTS AND DOCTORS TO CO-OPERATE

Some time ago, questionnaires were sent to all druggists and physicians in the State of Indiana, asking their co-operation to help stamp out venereal disease. Druggists were asked to discourage the use of patent medicines for treatment by discontinuing the sale of such remedies, while physicians were asked to lend their vigorous co-operation by reporting all cases under treatment with them under a code or key number, thereby protecting the name of the person infected so long as the patient submits to treatment and uses the precautions necessary to prevent spreading the disease.

Many druggists have already disposed of their supply of patent medicines for the treatment of venereal diseases, while others are conscientiously planning to dispose of their stock as soon as possible. Druggists are permitted to sell out their stock but are urged to hand patrons, who call for the common-known remedies for such diseases, circulars supplied by the Government, which point out the dangers of home or self-treatment.

A recent meeting of doctors and druggists of Logansport, interested in the venereal disease ordinance passed by the city council, terminated in the adoption of a resolution calling for a meeting of every physician and druggists in the county to be held shortly when definite action will be decided on. There was a general good feeling among those present, and it was the sense of the meeting that those present would fully co-operate.

RADIUM FOUND IN CANADA

A discovery of pitchblende, the ore of radium, was recently made in Butt Township, in the Nipissing district of Ontario, by a prospector searching for mica. An assay of samples by Ledoux & Co., of New York, showed the pitchblende to be rich in uranium, known as the parent of radium, having a uranium content of 63.60 per cent. Since the find there has been a rush of prospectors to the region, and a large number of claims have been staked.

The attention of investors has been attracted, and the question as to whether radium occurs in commercial quantities will, before long, be ascertained by actual development. The Mining Corporation of Canada, which operates several cobalt silver mines, has taken an option on seventy-four acres adjoining the discovery claim and will make a thorough exploration of the property. Other large transactions looking to the acquisition of claims by those in a position to develop them are pending.

USE OF WOOD WASTE FOR ALCOHOL

The Canadian Honorary Advisory Council for Scientific and Industrial Research has issued a bulletin on the manufacture of ethyl alcohol from wood waste. The article is by G. H. Tomlinson, who states in an appendix that several plants for producing ethyl alcohol from wood waste were installed in Germany during the war. Their output of alcohol was relatively large.

Mr. Tomlinson states that in British Columbia alone, sawmills produce from 10,000 to 15,000 tons of wood waste every day, representing sufficient raw material to produce from 30,000,000 to 50,000,000 gallons a year, or enough to operate 1,000 motor cars. In the course of his article Mr. Tomlinson deals chiefly with plants which have been constructed in the United States during the last ten years, and which have been producing the highest grade of ethyl alcohol at a reasonable cost.

OVER 20 PREPARATIONS DRINKABLE

Dr. A. B. Adams, chief chemist of the Bureau of Internal Revenue, submitted a list of 23 preparations made in accordance with the U. S. Pharmacopoeia and National Formulary, but which he considers may be used for beverage purposes, at a meeting of drug manufacturers, pharmacists and physicians last week in Washington. The conference was called by Prohibition Commissioner John F. Kramer. H. B. Thompson, representing the Proprietary Association, said the association took the stand that no alcoholic preparations should be manufactured or sold except for legitimate medicinal use.

D. J. M. Francis, representing the American Drug Manufacturers' Association, urged that allowance be made for the disposition of stock in the hands of the trade. There are preparations, he said, which might be used by a morbid drinker, but which nevertheless have valuable medicinal properties.

Dr. T. H. Carmichael, chairman of the Committee on Pharmacopoeia of the American Institute of Homeopathy, urged that extension be made of the regulation allowing a physician only two quarts of liquor a year without giving bond. Many homeopathic physicians, he said, are their own pharmacists, and the allowance is not sufficient to meet the needs of their patients. The request was seconded by Dr. T. J. Gramm, representing the Homeopathic Society of Philadelphia.

Dr. Samuel C. Henry, president of the National Drug Trade Conference, asked the Bureau to consider the percentage of alcoholic preparations that will be used for beverage purposes in comparison with the quantity that will be used for strictly medicinal purposes. Manufacturers and retail druggists, he said, are bonded, and their permits for the manufacture or sale of non-beverage alcohol may be revoked if the law is not obeyed.

THE WORLD'S CHANGED TRADE ROUTES

No country has been more deeply or advantageously affected than the United States by the changes wrought by the war in international trade routes, it is declared by Guy Emerson, vice-president of the National Bank of Commerce, writing on "America and the New World Trade Routes" in the November issue of "Commerce Monthly," the bank's magazine.

"The United States now stands in a definitely more favorable position in relation to international commerce than it did in 1914," Mr. Emerson says. "Our merchant fleet is the second largest in the world. The Panama Canal is now effecting changes in trade routes which are highly favorable both to our importers and exporters, and the unsettlement in methods of distribution during the war promises to emphasize the effect of this new waterway on the distribution of Asiatic products; while our position between the Pacific and Atlantic Oceans should serve to secure us our fair share of advantages from the more remote results of the conflict."

A number of countries whose goods reached us before the war only by trans-shipment. from European ports now are trading with us by direct routes, Mr. Emerson points out. Our coal resources enable us to influence trade routes markedly, and should the increasing use of oil as fuel for ships cause coal to cease to be a dominant factor, our present position as producer of two-thirds of the world's petroleum will give us the same advantage. Mr. Emerson says:

"It seems probable that the most far-reaching effect of the war on ocean transportation will result from the destruction of steamship tonnage which took place, and the consequent changes in the relative position of the chief ship-owning and operating nations. At its beginning, the United Kingdom owned 41.6 per cent of the world's sea-going tonnage and the United States 4.5 per cent. Now the United Kingdom owns 34.3 per cent and the United States 20.4 of the sea-going tonnage.

"Conditions of competition over the two ocean trunk lines next in importance to the North Atlantic route are being greatly affected by the Panama Canal. The first of these routes is that to India, China and adjacent territories of the Middle East. A large competitive area as between the Panama and Suez routes has developed, and while the bulk of eastern North American tonnage will go via Panama, and the larger share of European traffic via Suez, a considerable re-adjustment, depending on many conditions, will probably take place in the next few years. The same is true of the second of these routes, that from eastern North America and western Europe to Australia and New Zealand."

SEEK POSITIONS FOR CHEMISTS

Major Frederick M. Crossett, U.S.A., attached to the chemical warfare service and in charge of its employment bureau, is making another appeal to manufacturers and others throughout the country to employ expert chemists who served with the chemical warfare service of the army and are out of jobs temporarily. He says: "Many men are being discharged from the army who before entering service were engaged in work requiring chemical or technical education and experience. Nearly all are college or technical school graduates with practical experience. They have had the benefit of army training and discipline, and, in some instances, the handling of men, research work or chemical engineering. Some of them are anxious to secure employment.

"When this country entered the war it was necessary to get chemists and chemical workers for the service. It was at a time when manufacturing concerns were demanding a large number of expert chemists. Despite this competition, 5,400 chemists answered the Government call at a great financial sacrifice. Three hundred signed agreements to go into the stockades at Cleveland and Edgewood, Ohio, to stay during the continuance of the war. Besides denying themselves the opportunity to earn large salaries, they gave up their chance to go to France. Now that the war need for chemists is past, the men are without positions, though manufacturing concerns are greatly in need of chemical workers. From the applicants (from all over the country), there is an opportunity to select splendid men, who are well qualified to fill any place requiring chemical or technical knowledge and experience.

"When men are wanted, preference should be shown to those who have served their country in the war. Kindly employ and recommend them when opportunity occurs. Do you need a man? If so, please send full details of your requirements. We have them from $1200 to $12,000 a year. A line to the Director of Chemical Warfare Service, Washington, D. C., will bring prompt attention."

Gives Fundamentals of Pharmacy

The Era Coure in Pharmacy:

I greatly appreciate the interest you have shown in me. I took the July Board of Examiners for the State of Utah and passed as a registered assistant. I feel that the Era Course is very complete and without it I would have been lost. It surely takes one into the fundamentals of pharmacy—easily, clearly and rapidly.

Very respectfully,

H. E. RILEY.

Malad, Idaho, Dec. 4, 1919.

Educational Department

Devoted to Information, Criticisms and Suggestions on Pharmaceutical Topics of Special Interest to Era Course and Other Students.

Conducted by C. VERNE NICHOLS, Ph.C., B.A., M.S., Director of the Era Course in Pharmacy.

ANOTHER NEW YEAR'S RESOLUTION

This being the first of a new year, many of us are transforming to new life our acquaintance with those New Year's Resolutions which we first made years ago and have been adding to annually. The majority of us have no doubt profited more or less from this practice—some of us to a great extent, others not so much, but surely no one will say that it has not been a good custom to follow.

Many of us who have taken up or are taking up the study of pharmacy are guilty of carelessness in our spelling. Correct spelling is one of the prerequisites of a good pharmacist just as it is a necessary acquirement of a good stenographer. Some of the errors in the spelling of the more simple words which have recently been found in the recitation work of the students of the Era Course are as follows: "burnes" for burns, "formes" for forms, "comeing" for coming, "groth" for growth, "margen" for margin, "leafe" for leaf, "agreable" for agreeable, "bearly" for barely, "droped" for dropped, "funnell" and "funnall" for funnel, "poreous" and "pourous" for porous, "soluable" for soluble, "valuble" for valuable, "untill" for until, and others which are somewhat more difficult. Well do we know that these same students have the ability to do better than the above few words tend to show, but apparently they were negligent, just as are all of us when we write more or less mechanically.

Nor is this true with these students alone, but it is true with students in the different schools and colleges of pharmacy. It would be quite interesting to know what percentage of pharmacists—and others—spell the simple words correctly. If some of the other words are sometimes misspelled, there might be some slight excuse, but when we misspell the words that we learned to spell correctly years ago, it is high time that we attempt to make amends for such a pernicious habit.

Suppose that we add another resolution to the number which we have recently revived, to the effect that we will make an effort to overcome this fault of misspelling, which is nothing but carelessness on our part and that we spend "just a little more time" using the dictionary. Of course, we may not notice the improvement that is certain to come, but, without doubt, those to whom we write will note the difference. Seems that everything is in favor of it being an improvement, as everything is to be gained and nothing is to be lost.

Assisted Him in Board Examination

The Era Course in Pharmacy:

Gentlemen: I wish to inform you that by the knowledge gained in studying only a part of your worthy Course I successfully wrote the Alabama State Board examination last month, making the highest average of any of the applicants taking the examination on that date. As a reward for this honor, I was presented with membership in the Alabama Pharmaceutical Association and credited with a year's dues.

I desire to state that the Era Course is a wonder. It is classified in such a manner that it makes pharmacy easily understood in all of its different phases by anyone who will apply himself. Wishing an abundance of success for The Era Course and recommending it to anyone interested in pharmacy, I am

Very truly yours,
FELIX H. TAYLOR

Mobile, Ala.

RECENT ERA COURSE GRADUATES

During the past few weeks a number of students have successfully completed the recitations of the Era Course and have submitted satisfactory answers to the Final Examination, thus entitling them to the diploma of the Course. The grades which they have received tend to show the degree of earnestness and thoroughness with which they studied the Lectures and prepared the recitations.

Matriculation Number		Graduation Average
8901	Sister Mary Aquinas, Delaware, Ohio	98 %
10558	John S. Vitale, McKees Rocks, Pa	96.5%
10107	Harry Y. Yamamoto, Sacramento, Cal	83 %
10327	A. Richmond Walker, Greenfield, Mass	97 %
10181	George W. Thamert, La Moure, N. Dak	89.5%
10387	Lena G. Owens, Memphis, Tenn	91 %

QUERIES ANSWERED

Questions answered under this caption are of a general nature and are numbered consecutively, beginning with the issue of the Era for November, 1918.

253. What is the natural order and habitat, of the plant from which each of the following drugs is derived: (a) nux vomica; (b) sumbul; (c) guaiacum; (d) marrubium?

(a) Loganiaceæ; India and the Malay Archipelago; (b) Umbelliferæ; mountainous regions of Central and North Western Asia; (c) Zygophyllaceæ; West Indies and Northern South America, (d) Labiatæ; Europe and Asia. Naturalized in the United States and Canada.

254. What are the therapeutic properties of (a) sabal; (b) sumbul; (c) scoparius; (d) scopola?

(a) Expectorant, bronchial sedative, diuretic, nutrient and tonic; (b) carminative, antispasmodic, nervine; (c) narcotic, cardiac stimulant, inferior to digitalis but acts more quickly; (d) hypnotic, analgesic, mydriatic.

255. What is an analgesic and which are three pharmacopoeial so-called "synthetic" substances covered by the definition?

A remedy which relieves pain either by direct depression of the sensory centers in the cerebrum or by impairing the conductility of the sensory nerve-fiber. Acetanilid, acetphenetidin and antipyrine.

256. What are five pharmacopoeial drugs of vegetable origin which may be classed as analgesics?

Opium, belladonna, cannabis, stramonium and hyoscyamus.

257. What is cocculus indicus and what is its principal constituent?

The dried fruit of *Anamirta Cocculus*, a woody climber growing in the mountainous regions of southeastern Asia. The principal constituent is picrotoxin.

258. What are two alkaloids existing in the pericarp of cocculus indicus and how may they be distinguished?

Menispermine and paramenispermine, tasteless, nontoxic, and crystallizable, the first named combining with acids to form salts, the second being identical in chemical composition but distinguishable by its want of alkalinity, volatility, and solubility.

259. What are the chief uses of cocculus indicus?

It is of importance as a source of picrotoxin and the berries in the form of an ointment, tincture or decoction are sometimes used as an external application in parasitic skin diseases and to destroy pediculi. The powdered berries, mixed with dough, have been used to stupefy fish, hence the name "fish berries" has been applied to them in many localities.

260. What is Burgundy pitch and how is it obtained?

It is prepared from the resinous exudation obtained from the stems of *Abies Abies* (excelsa), an evergreen tree indigenous to Europe and Northern Asia. The oleoresin is collected by making incisions in the bark and scraping the exudation out of the holes thus made, after which it is melted under water and strained. It is doubtful if the commercial supplies have ever been derived from the French province, Burgundy, from which it takes its name.

261. What is the physical appearance of Burgundy pitch?

Irregular, opaque or translucent pieces, hard yet conforming to the container, the fracture shiny, conchoidal; brittle, softened by heat, yellowish or reddish-brown, and possessing an agreeably terebinthinate odor and a sweetish, aromatic taste.

262. What quantity of prepared chalk is needed and how much will the same cost at four cents per pound to make 1000 mils of chalk mixture?

For 1000 mils of chalk mixture 200 grams of chalk powder are necessary. To make this quantity of powder requires 60 grams or 925.944 grains of prepared chalk which at 4 cents per pound would cost 0.529 cents.

263. Why are some salts acid in reaction while others are alkaline?

Those which are acid are combinations of a strong acid and a weak base while those which are alkaline in reaction are combinations of a strong alkali with a weak acid.

264. What is the difference between benzine and benzene?

Benzine is a complex body of varying constitution distilled from petroleum while benzene or benzol, C_6H_6, is a definite hydrocarbon distilled from coal tar. By the action of strong nitric acid, benzene yields nitrobenzene, termed, from its odor, artificial oil of bitter almond, owing to which substitution has been made with fatal results. It is also known as oil of mirbane.

265. What are Lovi's or specific gravity beads?

They are balloon shaped hollow globes of glass, of different sizes and weights, having specific gravity figures scratched upon their sides. These figures indicate the specific gravity of the liquid in which the beads swim indifferently.

266. What is a lactometer?

It is a hydrometer employed in detecting the adulteration of milk with water.

267. What is star anise, from what source is it obtained and for what is it used?

It is the dried ripe fruit of *Illicium verum* which consists of eight stellately arranged carpels attached to a stout curved peduncle. Each carpel is generally with an opening which is its ventral suture, exposing a single, flattish, oval glossy-brown seed. It is obtained from a tree indigenous to the Southern provinces of China and is used as an aromatic, carminative, diuretic and stimulant.

268. What variety of anise is official and what is the source of the pharmacopoeial oil of anise?

The anise of the Pharmacopoeia is the dried ripe fruit of *Pimpinella Anisum*, while oil of anise U. S. P. is the volatile oil obtained by distilling the ripe fruit of anise or star anise. The botanical source from which it is derived must be stated on the label. Most of the commercial oil comes from the latter variety.

269. What impurities should be looked for in purchasing oil of anise?

Oils of fennel, caraway, coriander and other dextrorotatory oils, petroleum, fixed oils, phenols, oil of turpentine and alcohol.

270. How may ammonium chloride be prepared commercially?

Ammonium chloride is now chiefly prepared by saturating the ammonia liquor from gas works with hydrochloric acid, evaporating the solution to dryness, and subliming the residue in iron vessels.

271. Why should oils not be used in the treatment of phosphorus poisoning?

Oils are solvent of phosphorus and should not, therefore, be employed as antidotes in phosphorus poisoning, as their presence would tend to facilitate rather than to retard the absorption of the phosphorus into the system. Some toxicologists recommend the administration of French oil of turpentine in such cases, but this treatment is open to criticism.

272. Which of the U. S. P. spirits are not precipitated by the addition of water?

Spirit of ether, spirit of nitrous ether and aromatic spirit of ammonia.

273. As a rule, what is the color of ferric salts?

As a rule, the ferric salts are of a reddish-brown color.

274. Why must amyl nitrite be kept absolutely dry?

In the presence of moisture, amyl nitrite is rapidly decomposed into amyl alcohol and nitrous acid. Hence, the pharmacopoeial direction that it should be kept in hermetically sealed bulbs.

275. What are some of the liquids in which phenol is readily soluble?

Phenol is very soluble in alcohol, ether, chloroform, carbon disulphide, glycerin, fixed or volatile oils.

276. What color changes occur when acetanilid is added to spirit of nitrous ether?

Acetanilid with spirit of nitrous ether gives a yellow solution, which becomes red on standing for some time. The color occurs more quickly with an acid spirit than with a neutral one. Probably diazo-compounds are formed. The presence of a small amount of sodium bicarbonate will prevent this color change for several days.

277. What is the most important alkaloid found in physostigma and what salt of this alkaloid is recognized by the Pharmacopoeia?

Physostigmine or eserine is the chief alkaloid of the dried ripe seeds of *Physostigma venenosum*, known as calabar bean and ordeal bean. Physostigmine salicylate is official. This salt is also known as eserine salicylate.

278. Why has the term "ordeal bean" been applied to the seeds of physostigma?

In Africa it was used as "the ordeal bean of Calabar" for punishing criminals and for witchcraft. The accused was compelled to eat a paste made from seeds until vomiting or death ensued: if the accused vomited, he was declared innocent of the crime with which he had been charged; if death ensued, the guilt of the accused was held to be established.

Women in Pharmacy

CONDUCTED BY EMMA GARY WALLACE

A MESSAGE FOR THE NEW YEAR

THE New Year upon which we are just entering is a little different from any other New Year we have ever faced. The most stirring conflict of the ages has been brought to a close. Our own country has seen unparalleled industrial unrest. The drug world has been faced with conditions of a hitherto unknown character, in the way of taxes, restrictions and legislation. Employment conditions have been difficult and the colleges of Pharmacy have been placed at a disadvantage through the war interruption to their work. Apparently, the only safe and sane thing for us who are in the pharmaceutical world is to hold steady, to manage our business with the efficiency which the times demand and to keep our fingers on the trade pulse so that we will know what to buy and when to buy it and shall under no circumstances be taken unawares.

We are so apt to wish our friends a Happy New Year in a merely perfunctory way. But we have it within our power to make this new 1920 a year of closer co-operation, of greater mutual helpfulness, of finer preparation and of real happiness in improved service. No one can do it for us, for the law of recompense declares that we will get out of life exactly what we put into it. So let us make our investments thoughtfully and seriously, in order that we may find no fault with the dividends.

Each of us can bring something of inspiration to those about us. Perhaps the druggist up the street or down the street, or the little woman pharmacist who is half discouraged at times—will all be sent on their way with stronger courage for a cheery telephone message occasionally, an opportunity sought for a little social chat, or a word of recognition of good work done. Why not? Let us not become so engrossed and so overly serious that we are not ready to do a little every day to make the New Year happier for some one.

The New Year brings us fresh opportunities, but let us not forget that as the years go by, these opportunities are growing fewer, for the wheels of time never turn back. A New Year should always have much of joy in it, much of anticipation, much of hope. This is what makes its coming welcome and why we speed the going of the year which we have used to the limit.

So let us in just as many ways as we can, make just as much as we can, of this New Year, and may every month of its time be truly happy, truly glad—A Happy New Year to all!

BOSTON CHAPTER FOLLOWS COLLEGE WORK

The Massachusetts College of Pharmacy has an enrollment of forty-nine women this year among its total student membership of 291. The Boston Chapter takes an interest in these young women, many of whom come from New England, but a few from other States and even foreign countries.

At the first meeting of the Boston Chapter held at the College of Pharmacy recently, an address was given by Miss Little. Reports were received from delegates who had been sent to the Convention of the State Federation, the State Pharmaceutical Association and the National Association of Retail Druggists. Refreshments and a delightful social hour were enjoyed.

FIRST WOMAN PHARMACIST ON BOARD

Mrs. Graver

In a news item sent to the Era and printed in this department last month relative to the appointment of Miss Marie Piesinger as a member of the Minnesota Board of Pharmacy, the statement was made that she was the first woman to hold membership in Minnesota, and "probably the first woman in the United States to hold such a position." The latter assumption, however, appears not to be the case, and was overlooked in preparing the copy for the printer. In 1903, the Era recorded the fact that Miss Kittie W. Harbord, of Salem, Ore. (now Mrs. Graver, of Philadelphia, Pa.), was appointed a member of the Oregon Board of Pharmacy, later records showing that she served the full term of her appointment, and was again reappointed a board member in 1908. At the time of Miss Harbord's first appointment the Era hazarded the statement that she was probably the first woman pharmacist to be thus honored in the whole country. Without wishing to detract from the honor conferred upon Miss Piesinger as a representative woman pharmacist and capable board member, priority of service in this official capacity seems to belong to Mrs. Graver, nee Harboard, a native of Oregon, and a graduate of the Philadelphia College of Pharmacy. It would be interesting to know if any other women have served as members of a board of pharmacy?

AROUND THE CIRCUIT

Cincinnati Chapter, No. 5, gave a card party at the Gibson Hotel on Nov. 5, which quite eclipsed all previous entertainments given by the organization. The affair was an unqualified success both from a social and a financial standpoint. Mrs. Joseph Schneider, chairman of the Entertainment Committee, was unable to be present, but her place was taken by her husband who was ably assisted by Mrs. Albert Krause and the other members of the committee.

The Philanthropy Committee of Cincinnati Chapter is affiliated with the Needle Guild of Cincinnati, and pledged the Chapter to donate one hundred and twenty garments on or before Nov. 18. The pledge was duly completed on time, Mrs. Anna Groenland acting as the volunteer leader of the group of workers.

The November meeting was held at the residence of Mrs. Albert Krause.

Philadelphia Chapter, No. 6, held its November meeting as usual at the College of Pharmacy, with Mrs. Lee, the president, in the chair.

Fraternal greetings were read from Miss Eleanor Diehl of Louisville, Ky.

The meeting took the form of a memorial service for the members who had passed away during the past year. These are: Mrs. Samuel Shepherd, Mrs. George Lyons, Mrs. E. G. Eberle, Mrs. Alex. G. Kellar, Mrs. William Vandegrift, Mrs. Ellen L. Kennedy, Miss E.

Grace Hoffman. Sympathy was also extended to Mrs. Blackwood and Mrs. Fluck, each of whom has lost a father, and to Mrs. Hoffecker, who has parted with a sister.

On Saturday evening, Dec. 15, the wedding of Miss Rena Raeuber and Mr. Frank Schell took place at the home of the bride's parents, 2207 Chestnut Street. Milwaukee, Wis. Both Mr. and Mrs. Raeuber have long been prominent in the organization circles of drug affairs and best wishes and congratulations are extended at this time to the happy young couple.

A card has arrived announcing the birth of a little son to Mr. and Mrs. I. J. Casner of Youngstown, Ohio. Mrs. Casner is the daughter of the late Mrs. Fannie MacBride, who served as National President of the W. O. for two years, and was the organizer of the Youngstown Chapter.

Wilmington Chapter, No. 12, held its October meeting with Mrs. Gradwohl, and the November meeting at the new home of the Recording-Secretary, Mrs. Thompson. At the latter gathering, a number of the members brought druggists' wives who had not yet joined, as guests, each of whom later accepted the invitation to become members.

Mrs. D. I. McColley who has served as Chapter representative at the quarterly board meetings of the Delaware State Federation of Women's Clubs, gave a report of the meeting held at Smyrna, a few weeks earlier. She brought an interesting list of the proposed activities of the Federation.

Mrs. Oscar C. Draper, the president, presented a very interesting paper written by Christopher L. Ward of Wilmington. The subject was "Magic Casements" or "Fiction As an Escape From Facts."

The Wilmington members are discussing the advisability of forming a small local federation with some other clubs for the winter, so that they may summon outside inspiration to them and to share in it.

St. Louis Chapter, No. 8, held a most successful card party on Nov. 15. The hostesses of the party were Mrs. Haverman, Mrs. Hudson, Mrs. Krummenacher and Mrs. Pieper.

Milwaukee Chapter, No. 19, held its recent meeting at the Blatz Hotel and received several new members. After the regular business and the reports of the committee, Mrs. Katz, president of the Woman's School Alliance, spoke on the present high cost of living, labor agitation and the work of the School Alliance. Mrs. Katz invited the ladies to join the Alliance and solicited aid in buying shoes for the poor children who could not go to school for lack of them. A contribution of nine dollars was donated, and five of the members promptly joined the Alliance.

The Chapter gave a dancing party Nov. 10 which was held at the Juneau Auditorium. The grand march was led by the President, Mrs. Herman Lambeck, and Mr. William Rheinack, Mrs. Rheinack being chairman of the dancing party. One hundred and thirty couples took part in the grand march.

Indianapolis Chapter, No. 20, recently elected the following officers: President, Mrs. Harry Borst; vice-president, Mrs. C. Watkins; treasurer, Mrs. James Mead; secretary, Mrs. H. Dickson; corresponding secretary, Mrs. James Sproule; executive committee, Mrs. Reisback, Miss Freund.

Mrs. Mead was appointed delegate to the Convention of the Women's Federation of Clubs, held in Kokomo, Ind.

The Chapter held its November meeting with Mrs. E. J. Arold. The new president, Mrs. Borst, gave as the motto for the winter's work: "A new member to be brought in by every member." Already five names have been presented. An animated discussion took place over the line of work to be followed by the Chapter during the winter.

Cleveland Chapter, No. 21, took part in the State Federation meeting which met there in September.

The ladies gave a dance on Nov. 18 at Elks' Hall, at which the opening gun of the winter's work was fired.

Rochester Chapter, No. 22, held an important meeting at the home of Mrs. George Hahn, the first vice-president, at which Mrs. H. B. Guilford presided. The charter was closed with a membership of thirty. It was decided to join the City Federation of Women's Clubs. Two new members were admitted. There was an animated discussion over the Health Insurance and Seigel Bills, both of which the ladies will oppose.

The Women's Organization, through its president, Mrs. J. J. Seiberz, has appointed the following named ladies as chairmen of the several committees for the ensuing year: Legislative Committee, Mrs. S. C. Henry, Chicago, Ill.; Auditing Committee, Mrs. N. F. Haverman, St. Louis, Mo.; Fraternal Relations Committee, Miss Eleanor Diehl, 932 Cherokee Road, Louisville, Ky.; Educational Committee, Miss Mary Fein, Little Rock, Ark.; Committee on Constitution and By-Laws (composed of chapter presidents), Mrs. W. E. Lee, Philadelphia, Pa.

Milwaukee Chapter, No. 19, held its regular meeting Wednesday, Nov. 26, at the Hotel Blatz, and several new members were accepted.

Several poems, written by the late Ella Wheeler Wilcox, the well-known Wisconsin poet, were read. A number of the ladies had been personally acquainted with the authoress, and so reminiscences were added. It was voted to give five dollars' worth of Christmas cheer to the convalescent soldiers now at St. Mary's Hospital; also five dollars to the Associated Charities for the poor. The French war orphan, whom the Chapter has been supporting for the last two years, was remembered by a special gift.

In January, the seventh birthday of the Chapter will be celebrated. A one o'clock luncheon is to be given, followed by cards at the Wisconsin Club.

Closely following the announcement that Mr. Wallace had passed away suddenly, came messages of love and sympathy to the editor of this Department, all of which brought comfort and help and were greatly appreciated.

Brochure on Treatment of Pneumonia

"Pneumonia Prevention and Treatment" is the title of a very concise brochure issued by the Mulford Laboratories, which deals particularly with the production and testing of Antipneumococcic Serum, Pneumo-Strep-Serum and Pneumonia Serobacterin Mixed. Special attention is given to analysis and illustration, of the apparatus for intravenous injection, which simplifies the administration to such an extent that an intravenous injection may be safely given without any previous experience. A postal card will obtain this very valuable addition to pneumonia literature, which ought to be on the desk of every physician.

Boards of Pharmacy

ALABAMA

At the December meeting of the Alabama Board of Pharmacy held in Montgomery, the following applicants were successful:

Pharmacists—Felix A. Taylor, Mobile; F. R. Tucker, Gadsden; Jas. B. Tyner, Williston; J. G. Sanford, Wetumpka; J. E. Norman, Birmingham; Raphael Hancock, Tuscaloosa; F. G. McFadden, Ozark; E. B. Berney, Ensley; J. P. Stewart, Attalla; C. I. Justice, Prattville; G. H. Van Aller, Mobile; F. A. Robinson (col.), Selma; J. E. Engram, Lake Worth, Fla,; Milton Wood, Jr., Montgomery; H. G. Walden, Clayton.

Assistant pharmacists—J. F. Walker, Huntsville; W. H. Philpot, Hurtsboro; W. C. Reynolds, Tuskegee; L. G. Morris, Birmingham; C. L. Rosenheim, Chattanooga, Tenn.; C. H. Latham, Huntsville; G. M. Wood, Montgomery; A. W. Brown, Brooklyn; B. F. Cherry, Montgomery.

All members of the board, including L. C. Lewis, recently reappointed, were present except E. P. Galt, who was detained by sickness. W. P. Thomason was chosen president of the board, which is scheduled to hold its next meeting at Birmingham on Feb. 11.

ILLINOIS

The Illinois State Board of Registration announces the following list of registered pharmacists and assistants who successfully passed at Springfield on Sept. 16;

Registered pharmacists—Raymond Allen, Chicago; John A. Bourland, Equality; Harold G. Baird, Chicago; Chas. H. Baker, Springfield; John J. Bruehl, Chicago; Simon Friedman, Springfield; Benjamin Goldman, Chicago; Joseph A. Graf, Alton; Isaac S. Greenberg, Chicago; Sister Evarista Grogan, Taylorville; Frank A. Millburg, White Hall; Albert L. Park, Chicago; Lester Rushing, Carbondale; Myer H. Shapiro, Chicago; Ernest L. Slinkard, Chicago; James E. Sterling, Dixon; Arthur Van Hooser, Metropolis; Joseph Wacker, Chicago; Athol L. Waggoner, Chicago.

Assistant pharmacists—David Aron, Chicago; Fred Carl Liescheidt, Pekin; Joseph Lauf, Chicago; George Malinski, Chicago; Orla F. Nesbitt, Chicago; Adrian Plaut, Chicago; Earl M. Stansberry, Peoria; Joseph Sueherman, Chicago; William Levi Sides, Chicago; George S. Spilver, Chicago.

The next examination for applicants for registered pharmacist will be held in Chicago in Room 1006 City Hall, on Tuesday, January 6, 1920 at 9 o'clock in the morning. On Thursday, January 8 an examination will be conducted for applicants for assistant pharmacist.

KANSAS

Edward Dorsey, secretary, under date of Dec. 12, furnishes the Era a list of the successful candidates who passed the examination of the Kansas Board of Pharmacy held at Lawrence on Nov. 12 and 13, as follows:

Lawrence Bechlmeier, Everest; Leo J. Snyder, Leavenworth; C. E. Graves, Norton; F. E. Arnold, Salina; Jay M. Steward, Penalasa; W. N. Johnson, Jr., Parsons; Mrs. Mable DuPree Jondel, Wichita; Russell B. Barnes, Baxter Springs; H. Paul Haizlip, Wichita; Leonard L. Fisher, Caldwell; Thos. D. Lisman, La Cygne; Roy C. Reese, Kansas City, Mo.

The next examination will be held at Fairmount College, Wichita, on Feb. 11 and 12.

KENTUCKY

Out of a class of eleven applicants examined by the Kentucky Board of Pharmacy at the regular meeting held in Covington, Oct. 14 and 15, the following passed as registered pharmacists: Clyde M. Howard, Hopkinsville; Harry Lee Pfeiser, Louisville; Benj. Pookman, Louisville.

Assistants: Arthur B. Hillyard, Princeton; Chas. S. White, Cloverport. The next meeting will be held in Covington, Jan. 13, and 14, 1920.

LOUISIANA

The Louisiana Board of Pharmacy held its fourth quarterly meeting at Tulane University, New Orleans, on Nov. 21-22, twenty-two applicants presenting themselves for certificates as registered pharmacists and four for certificates as qualified assistants. The following applicants were successful:

Registered pharmacists—Mrs. Marion Odom, B. H. M. Matthiesen, B. B. Stamps, Leon L. Vignes, Geo. F. Baumann, Robert E. LeBlanc, Eugene L. Paysse, all of New Orleans; John T. Irwin, Clinton; Sosthene Ardoin, Eunice; Donald M. Coulter, Paul L. Wright, Gulfport, Miss.; Waldo J. Labbe, St. Martinsville; Charles R. Carnahan, Bunkie.

Assistant pharmacists—Francisco J. Santos, Porto Rico; Maurice Lehman, Albert N. William Kugler, John M. Danneker, Joseph T. Baltar, Jr., all of New Orleans; R. J. DeBlanc, New Iberia; Earl J. Bland, Houma; E. A. Phillips, Hattiesburg, Miss., and Leon J. Spears, Baton Rouge.

The following were granted reciprocal certificates: William E. Turpin, Bastrop, La., John F. Dixon, Jr., Elton, La., registered by examination in Mississippi; Sigmond H. Bauer, New Orleans, La., registered in Alabama; Jake Conrad Powell, Shreveport, La., registered in Tennessee; Edwin Virgil Leatherman, Pineville, La., registered in Georgia.

Certficates were granted to twenty applicants as apprentices. The next meeting of the board will be held on Feb. 20 and 21, in the Chemistry Building, Tulane University.

MINNESOTA

The Minnesota Board of Pharmacy awarded certificates of registration to five applicants as pharmacists and six others who qualified as assistant pharmacists as a result of the October examinations conducted by the board at the University of Minnesota. The names of the successful applicants are as follows:

Pharmacists: M. Helsper, St. Paul; J. F. Logan and E. J. Belanger, Duluth; J. C. Swenson, Mabel, and R. E. Van Clief, Minneapolis.

Assistant pharmacists: George M. Hanson, Paynesville; Carl F. Johnson, Braham; George E. McCall, Waseca; Ernest G. Niles, St. Paul; F. P. O'Brien, Eden Valley, and Irving Tillotson of Gettysburg, S. D.

MISSOURI

H. C. Tindall, secretary of the Missouri Board of Pharmacy, announces the names of the following persons who passed the examinations for registered and assistant pharmacists recently held in that State:

Registered pharmacists—Ben F. Chastain, Weston; H. T. Hammett, Jefferson City; Leo Housh, Otterville; H. C. Scholer, Kansas City; R. G. Germann, Maiden;

Walter C. Good, Fordland; George C. Logsdon, Bethany; W. S. Wood, Kansas City; F. B. Myers, Smithton; Pearl M. Clark, Springfield; R. Milstead Noel, Monroe City; R. F. Ford, Lexington; Fyrn Haynes, Warsaw; Rollie E. Hartman, Lawson; H. E. Bales, Sedalia.

Assistant pharmacists—C. H. Krummel, Webb City; C. C. Doherty, Gilman City; C. E. Hoggland, Brookfield; W. Bogart, Clinton; F. L. Nutter, Liberty; Floyd Bowman, Appleton City; Ralph Kemp, Stewartsville; Verne D. Cunningham, St. Joseph; R. E. Williams, Higginsville; Lulu Sawyor, Versailes; L. T. Hunter, Versailes; Willie Strother, Rocky Comfort.

The next meeting will be held in the State Capitol, Jefferson City, on Jan. 12.

PENNSYLVANIA

The Pennsylvania Board of Pharmacy examined 152 applicants for registration at the meetings held in Philadelphia and Pittsburgh on Nov. 7 and 8, 59 applying for certificates as registered pharmacists, and 93 for assistant certificates. The following were successful:

Pharmacists—Thomas L. Algeo, Edward L. Dwyer, Frank F. Stencil, Harry Gordon, all of Pittsburgh; Harry Barab, Lillian E. Baron, Mark J. Berkenstock, Israel Brown, Norman L. Glenn, Edward Howell, Aaron H. Josephs, Eugene I. Kiely, Joseph Koffs, Anna Ostroff, Harriet Pinsky, Annetta M. Sanders, Joseph P. Seltzer, William J. Stoneback, John A. Thomas, Charlotte G. Weisman, all of Philadelphia; R. Galvin Scollon, Barnesboro; Raymond J. Moyer, Coatesville; Elwood M. Keagy, Connellsville; Howard M. Young, Elizabeth; Eugene M. Coldsmith, Julius R. Conti, Monessen; Isadore B. Weinberg, Norristown; Eugene R. Zimmerman, New Castle; Lee Campbell, Sewickley; R. Raymond Hull,, Tarentum; Virginia Frank, Turtle Creek; Harry Neff and John R. Randolph, of Camden, N. J.

Assistant pharmacists—Samuel M. Berkowitz, Abraham Engelsberg, David Fibus and Fred J. Povaloski, of Pittsburgh; Rebecca Bornstein, Allen L. Dinger, Wilmer M. Eby, Morris Freed, Joseph C. Fleisher, Eli N. Green, Florence M. Greeninger, William H. Gross, Hyman Joffe, Louis Alex. Kessler, Karl F. Koenig, Thomas J. McFadden, Max Parloff, Isidor Rebarber, Brown C. Staub, Abraham B. Silver, George Slothower, Mary A. Wasserman, Benjamin Waxman, Warren R. Weidemann and Louis G. Wohl, all of Philadelphia; Russell Kepner, Bala; John A. Heagy, Black Lick; Numa Duvoisin, Clifton Heights; William C. Graham, Harrisburg; Karl Schneider, Johnstown; Clarence E. Showalter, Latrobe; Ralph E. Reynolds, Lansdowne, Max. D. Friedman and Philip A. Teah, Lock Haven; Charles H. Miller, Masontown; Ralph L. Calvert, Vosburg; Margaret Lange, McKeesport; William Woelfle, Jr., Wilkes-Barre; DeWitt M. Watson, Salem, W. Va.; Elton M. Best, Goldsboro, N. C.; Horace A. Hain, Mt. Holley, N. J.; Charles E. Johnson, Pennsgrove, N. J.; Lee G. Cordier, Lima, Ohio.

The next examination will be held in Harrisburg on March 5 and 6.

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I was successful in passing the State Board and wish to say that the two Parts of the Era Course that I studied were a great help to me for the examination.

The Era Course Lectures are very interesting to me and I shall continue to send in recitations until I complete the requirements for graduation.

Respectfully yours,
MORRIS B. PODNOS.

Boston, Mass., Dec. 5, 1919.

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Cost of Dispensing Medicines

Considerable discussion has developed in various sections of the country relative to what constitutes a fair rate of profit in the practice of pharmacy, more particularly the profit that should be obtained from the compounding of prescriptions as ordinarily performed in the average drug store. From the strictly mercantile side of pharmacy, the cost of most of the items carried in stock can be easily ascertained and expressed in definite figures, the data thus obtained being usually sufficient for the purpose of calculating the rate of profit. But quite another problem is presented when one attempts to ascertain the actual cost of labor and other expenses involved in placing a compounded prescription before one's customer, for besides the cost of ingredients, etc., there are the expenses covering the dispenser's time, the "overhead," and related factors which too frequently do not receive the attention they should.

A practical system of approximately estimating the cost of dispensing medicines is much to be desired, as set forth in an article printed elsewhere in this issue of the Era, the author suggesting that pharmacists interested could collaborate to advantage in evolving a satisfactory system for this purpose. He contends that there ought to be a business-like method for pricing prescriptions for the use of pharmacists which would not commercialize the art of dispensing. Accuracy in charging for prescription work is just as essential and should receive as careful consideration as means and ways of training pharmacists in pharmacy.

Teachers Against Union Domination

Quite in contrast with the position taken by the American Federation of Labor in its agitation for unionizing drug stores are the views expressed by the members of the faculty of the School of Pharmacy of Columbia University, adopted at a recent meeting of that body in this city. They are as follows:

> Whereas, the basic principle of professional life and activity is the obligation of its subjects to be loyal to its unselfish interests and purposes and to regard the satisfaction of self-interest chiefly as a means for the accomplishment of these purposes, and
>
> Whereas, the American Federation of Labor is not organized nor conducted in accordance with that principle, therefore, it is

> Resolved by the Faculty of the School of Pharmacy of Columbia University in the City of New York, that it is not fitting nor proper that we should affiliate with the American Federation of Labor, nor with any organization that is so affiliated, and
>
> Resolved, that we favor the organization of a genuinely professional association of teachers and other representatives of the professions, having for its object the establishment of the best possible conditions for accomplishing professional work, among which conditions is the proper material support of the members of such professions.

While reflecting the professional side of pharmacy as these resolutions do, they also emphasize the conviction that the sale of drugs and medicines is a calling that can never be governed by the regulations which unions would impose on manual trades. Medicines are only called for when they are needed, and it is beyond the ability of any individual to bring the demand for such remedies within the scope of any eight-hour system or other specific period to be named by any body of men.

To weld into one harmonious combination the various forces having to do with the practice of pharmacy, especially at this time when so many industrial relations are undergoing radical changes is no light undertaking, but the fact that these teachers of pharmacy propose to make an orderly study of the conditions for professional work augurs well for the future of pharmacy.

Prescriptions for the Worthy Poor

A correspondent sends us a copy of a recent metropolitan newspaper which contains a prominently displayed advertisement addressed

> "TO THE WORTHY POOR. No worthy person need suffer a moment for want of proper medicine. Prescriptions will be filled free of charge at any——store upon presentation of a note from the doctor on his professional card, stating the patient is needy."

We are asked to pass an opinion on this kind of advertising.

The question of assisting the needy poor is not a new one to the average druggist, for all of those we ever knew have always practiced charity of this character, although most of them never publicly advertised the fact that they did so. One reason that some will advance against the advertisement in question is that the means advertised for securing free medicine tends to shock the feelings of those who by unfortunate circumstances are compelled to carry a note which classifies them as "needy," while others will feel that such publicity is repugnant to many generously inclined persons who have been taught to extend charity to suffering humanity in a secret or unostentatious manner. Why, they ask, capitalize humanitarian instincts and carry the impression that worthy persons do suffer for want of proper medicine?

As a matter of fact, the average pharmacist will hesitate long before he will advertise that he practices charity. The doctors in his vicinity know this, and they govern themselves accordingly. For many years both professions have quite consistently followed the rule set forth by Parrish a half century ago; "When the patient is in moderate circumstances, the physician indicates that fact to the apothecary by the letter P, in one of the lower corners of the paper. If very poor, PP is written; from a conscientious apothecary, either of these marks secures a reasonable reduction in the price charged, and its omission by the physician leads to the suspicion that the patient is not deserving of special charity." In this silent, unobtrusive manner, it is claimed, real charity toward the poor and needy will continue to be extended as long as the spirit of the Hippocratic oath actuates both professions, or the practice of Christian ethics obtains. Not a few in the practice of pharmacy will still endeavor to find a modicum of reward in the opportunity their profession gives to help human beings in real trouble.

Pharmacists and the Pharmacopoeia

Attention is called to the communication of Dr. E. A. Ruddiman, chairman of the Section on Pharmacy and Dispensing of the A.Ph.A., which appears on another page of this issue of the Era, in which he asks for papers to be read before the section next May, just previous to the forthcoming meeting of the U.S.P. Convention. Two of the topics he suggests are of immediate importance at this time; namely, a presentation of constructive criticisms of the Pharmacopoeia, and a discussion of the part the pharmacist is to play in the revision work.

Various criticisms have been made on the present Pharmacopoeia and it would be difficult for any one to name them all. Notwithstanding the number, the Ninth Revision still occupies the commanding position it assumed when it first became official, showing in the main, that not all of the criticisms represented vital defects. One of the criticisms that has received considerable attention is that decennial publication is too infrequent to reflect advances in the professions most interested in the Pharmacopoeia, while as a book of standards under the law, the official tests given tend to preclude the application of other methods of analysis. To overcome these objections, the critics say, arrangements should be made for the publication of supplements to the Pharmacopoeia. If such were provided, it would not be difficult to include the addition of such medicinal substances as might be adjudged worthy of official recognition while such a supplement would also provide a means for calling attention to errors, giving improved processes, and other information.

The part the pharmacist is to play in the revision of the next Pharmacopoeia will depend largely upon himself. As always has been the case, many physicians will contend that the drugs and medicines to be introduced into or expunged from the Pharmacopoeia should be designated by medical men, but there is no getting away from the fact that pharmacists will have the most to do with the practical preparation and handling of such substances. It is therefore to the latter's interest to see that scientific descriptions and trustworthy tests are provided for every article which may be accorded official recognition. Every pharmaceutical organization should send its ablest members to the next Pharmacopoeial Convention.

Concerning the Opium Law of Japan*

By Teishiro Kawamura

I.—Introductory

THE poppy, from which opium is manufactured, is not only a very pretty flower to look at, but is useful in many ways. Its seeds are used for food, medicine is extracted from its petals, its stalks and leaves are used as fertilizers, while from its juice is manufactured opium which is most useful and effective in medical treatment. The annual consumption of opium in Japan amounts to 500,000 ounces or 4,000 kwamme, valued at 400,000 yen, to which adding 50,000 kwamme consumption of opium in Formosa, the total consumption reaches 54,000 kwamme, valued at 5,000,000 yen. In China the annual consumption of opium is estimated at 9,000,000 kwamme, valued at 500,000,000 yen.

The production of opium in Japan, however, is only 300 kwamme, valued at 20,000 yen, and considering the great demand for opium, there will be necessity for cultivating the poppy for medicinal purposes. In view of the great evil of opium smoking, however, the utmost attention should be paid to the control of opium for the sake of the individual, the public health and for international morals. This is the reason why laws have been enacted by Japan since the Tokugawa days for the control of opium.

II.—History of Opium Control

The following history of opium control in Japan is based on an investigation carried out by the Home Office.

With regard to the manufacture of opium in Japan, the Government has been providing measures for its encouragement since the early years of Meiji, but the industry has not made headway and only indifferent results have been obtained. For many years the annual production of opium on an average did not exceed 20 or 30 kwamme. When hostilities broke out in Europe in 1914 and the import of drugs from abroad fell off, the Government encouraged the manufacture of drugs throughout the country: as a result, a fresh impetus was given to the manufacture of opium and the production has considerably increased. In 1918, for instance, the production amounted to 400 kwamme, while further efforts are being made by the authorities to improve the quality of domestic opium.

The opium regulations framed in 1878 were superseded by the Opium Law, which was passed by the Imperial Diet and promulgated in 1897. In this law it was provided that the import and manufacture of opium should be made a monopoly of the Government. The latter issues orders abroad for all opium required in the country for medical purposes, while opium produced in the country is brought up to a fixed price when the percentage of morphine contained in it reaches a fixed standard; opium which fails to contain the required percentage of morphine is destroyed without compensation. All the opium collected by the Home Office is prepared by the Tokyo hygienic laboratory in accordance with the stipulations of the Pharmacopoeia Japonica and then distributed to the local authorities by whom it is sold to the druggists especially appointed for the sale of opium.

The necessity of opium for medical purposes was recognized, and for the purpose the opium either had to be imported or manufactured in the country. The Government therefore adopted measures to encourage the cultivation of the poppy and to provide for the manufacture of opium of good and uniform quality. For this purpose various means were adopted, and opium of better quality began to be produced in Japan, but as the quantity of the home product was limited, the Government found it necessary to have recourse to importation so that the shortage of the supply might be made good. Accordingly a proposal was put forward to open the way for the importation of opium, the proposition also providing that all opium of domestic and foreign manufacture should be purchased by the health bureau of the Home Office and then distributed to the druggists throughout the country to be sold to those who were in possession of a doctor's prescription.

In pursuance of this policy regulations were issued in August, 1878, which came into force in May, 1879. Another regulation was issued in October, 1878, relating to the sale of opium to foreigners in Japan, compelling those who were in need of the drug to buy it from the hygienic laboratories at Tokyo, Yokohama and Osaka, and the prefectural offices of Hyogo, Niigata and Hakodate. All the opium produced in the country, as well as that imported from abroad, was thus brought under the control of the Home Office.

When Shogun Tokugawa Iyesada concluded a commercial treaty with England in July, 1858, the import of opium was prohibited, a stipulation being that opium found on board a ship in a quantity exceeding 3 kin the quantity in excess should be confiscated, while anyone who smuggled or attempted to smuggle opium was subject to a fine 15 per kin [*sic*] of the opium smuggled or attempted to be smuggled. With the advent of the Meiji era the control of opium was made stricter. In April, 1868, the Government issued a notification to all local authorities calling their attention to the injurious nature of opium smoking and issued an edict prohibiting the smoking, sale, buying or transfer of opium, and imposing a strict penalty for its violation. In August, 1870, regulations were issued for the control of raw opium and the druggists and medical practitioners who sold or bought opium were required to report the transactions to the local authorities. At the same time instructions were issued notifying the Chinese residents in Japan of the prohibition of opium smoking and transactions in opium, and informing them that those who broke the prohibition were to be severely punished and that habitual smokers would be deported from Japan.

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*Adapted from the "Yakugyo Shubo," Tokyo.

In 1880 the Penal Code was promulgated, coming into force in 1882. The stipulations relating to opium provided that all individuals were liable to severe punishment who imported, manufactured or sold opium, as also were those who imported, manufactured or sold utensils for smoking opium, those who smoked opium, lent rooms for opium smoking, enticed people to smoke opium, or who were found to have opium or opium utensils in their possession. As it is necessary to provide opium for medicinal purposes, provision was made for the manufacture of morphine and opium alkaloids, a portion of the opium law of July, 1917, being revised to permit the sale of such manufactured opium to drug manufacturing concerns specified by the Home Minister. At present raw opium imported by the Government is examined for the percentage of morphine content, and then sold to specified companies.

Owing to the strict measures taken throughout the country, the practice of opium smoking has been effectually prevented in Japan. In Formosa the practice of opium smoking was allowed for many years before the island was annexed by Japan, but even there the Governor-General is taking measures for the gradual suppression of the evil.

III.—Control of Opium

The necessity of controlling the use of opium is recognized by all civilized countries, and as a result of the International Opium Conference, all of the countries are enforcing control measures. In Japan control is effected under the Opium Law, while in the Penal Code there are provisions for the punishment of those who engage in the importation and sale of opium, smoking opium, etc. Under the enforcement of both laws combined an effective control of the narcotic is secured.

IV.—Requirements of the Japanese Opium Law

"Opium," as mentioned in the law, means raw opium, the material from which comes opium for medical and pharmaceutical purposes.

The manufacture of opium means the extraction of the juice from the poppy and making raw opium by drying the juice.

Raw opium is manufactured into two kinds of opium treacle.

Opium conforming to the Japanese Pharmacopoeia should contain 10 to 11 per cent of morphine.

Those who desire to engage in the manufacture of opium must obtain permission of local Governors who will grant permission only after careful consideration of the antecedents and capabilities of the applicant.

A manufacturer of opium is required to report every year on a fixed date to the local Governor regarding the place and area devoted to the cultivation of the poppy. The authorities are required to pay careful attention to the area of cultivation and the quantity of raw opium obtained so that there will be no secret extraction of raw opium.

Growing Figs in this Country

IT IS not improbable that this country will soon produce all the figs it needs, according to a statement made by the Chief of the Bureau of Plant Industry, United States Department of Agriculture, in his recent report on the progress of Smyrna fig culture in California. Much of the success of this enterprise has been due to the fact that the department has been able to maintain a caprifig (the wild fig of Southern Europe and Asia Minor) orchard at Loomis, Cal., from which caprifigs have been distributed free to growers. Before this distribution was arranged for many small growers of Smyrna figs became discouraged and some even dug up their orchards.

The relationship between these two varieties is that the Smyrna fig is fertilized by an insect which lives on the caprifig. When Smyrna figs and caprifigs are planted together the caprifigs do not bear enough fruits to caprify the crop properly until several years after the trees begin to bear. For this reason a young orchard is dependent on importing the needed caprifigs during the first few years. It was to supply this need that the fig orchard at Loomis was leased by the department.

Many new varieties of caprifigs have been brought to light, some of them very important in commercial Smyrna fig culture. Many thousands of seedling figs have been distributed to cooperators in the fig-growing regions of California, Arizona, and Texas, and some promising new varieties have been originated by a proper selection of male pollen.

In the fall of 1917 the fig insect was established in some old seedling caprifig trees in Brunswick, Ga., and since then a number of caprifig trees have been similarly treated. The result is that it has been possible to caprify and bring into bearing many sterile Smyrna fig trees growing in the Southeastern States. Some of these trees bear a very high grade of fruit, promising for use as fresh fruit or for canning. It is still doubtful whether figs can be grown in the southeastern United States to advantage in a commercial way, but it is a matter of much interest and of some economic significance that many old sterile fig trees in that region are really Smyrna seedlings. Approximately half of the trees are Smyrna figs and the others are caprifig varieties.

COCONUT OIL IN DOMINICA

Though the coconut grows in abundance along the sea front in all parts of the Dominican Republic, this large source for vegetable oil has never been exploited to any material extent. At present there is a small oil plant near Samana which extracts the oil for use in a local soap factory, yet this factory does not begin to exploit this natural source of oils to its proper extent. Coconuts have been exploited at times in limited quantities, and likewise small amounts of copra, though such shipments have never assumed the importance of regular articles of commerce. It would seem that the country could become an important source of supply for seeds and nuts for oil mills.

Branching Out in Pharmacy

By H. Benson Fenwick

THEODORE ROOSEVELT once said that "this world could not be a fit place for any one to live in if it were not a fit place for all to live in." It is the same way in pharmacy—it will not be a fit profession for anyone to devote his entire time to, if everyone does not "buckle down" and push pharmacy as a profession to the high level that other professions have reached.

With the ever increasing competition, and in the face of the difficulties of making his pharmacy pay, the retail pharmacist is continually branching out into new side lines, such as phonographs, silk hose, alarm clocks and the lunch counter. Still pharmacists want to maintain their prescription and professional side of the business. The question arises, "Is it ethical to ask physicians to send their patients to the lunch counter drug stores to have their prescriptions filled?"

The main difficulty lies in the fact that at the same time the average retail pharmacist is branching out into side lines, he is ignoring the fact that his own educational qualifications offer him excellent opportunities not only for increasing his income, but also for strengthening his position as a professional man, thus rendering a service of great value to the community. There are many who claim that there is not enough prescription work to go around. How many of these men realize that there is work awaiting them even before the prescription is written? Often it is even a case where no prescription is needed at all, yet both the physician and the patient can make good use of the pharmacist's knowledge and service and are willing to pay for both.

Probably sixty per cent of the graduates from our modern pharmaceutical colleges upon leaving school tack up their shingle with Ph.G. at the end of their names and immediately begin studying methods for increasing their cigar and stationery business! These very men have become proficient in chemical analysis, a subject which has become a part of the profession of pharmacy and is a fit occupation for every pharmacist. It is a scientific side line which brings in additional revenue and augmented prestige.

The up-to-date physician, in order to make a diagnosis, is not satisfied in looking at the patient's tongue and taking his pulse, but he appreciates the knowledge gained by an examination of the secretions and excretions of the patient. However, he has neither the time or facilities to do this

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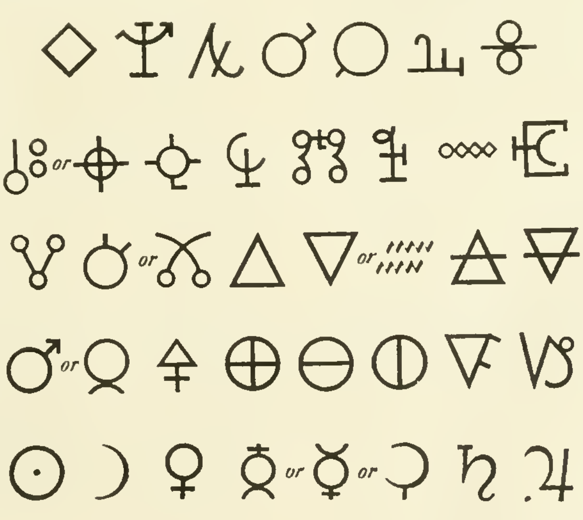
Alchemistic Symbols in Decoration

SOME months ago we had occasion to refer to a paper issued by the Pharmaceutical Experiment Station of the University of Wisconsin containing suggestions as to how effective decorations for drug stores might be derived from medicinal plants, the same motif being also adapted for the pharmacist's letter heads and all printed matter, thus giving his entire business an individuality which is directly related to pharmacy. Recently a similar suggestion was made with reference to the use of alchemistic symbols in decoration. The first example of modern art in which such symbols have been used, it is said, is the testimonial presented to Dr. Milton C. Whittaker last year on his retirement from the presidency of the Chemists' Club, of New York. This testimonial illustrates the happy facility with which these symbols may be applied to ornament laboratories and other buildings devoted to chemistry.

As showing the general character of these symbols, we produce herewith from *"The Little Journal,* published occasionally" by Arthur D. Little, Inc., Boston, a number of them for the benefit of those who are about to build and for their architects. The origins of these symbols are hard to trace. The Babylonian astrologers engaged in magic arts and they associated the heavenly bodies with metals. The Egyptians engaged in chemistry in a disjointed way, and when the Arabs overran Egypt and parts of Europe, they appear to have made a good beginning in the study of science. "Medieval and Renaissance manuscripts abound in these symbols, although many of them are of far more ancient days. Others, again, are empirical cryptograms of as late as the XV and XVI centuries."



1st row: Soap; Ferment; Sublimate; Day; Night; Month; Year.
2nd row: Oil; Wax; Crystal; Gum; Quicklime; Camphor; Ashes.
3rd row: Aqua Vitae; Realgar; Fire; Water; Air; Earth.
4th row: Iron (Mars); Sulphur; Vitriol; Salt; Nitre; Aqua Fortis; Aqua Regia.
5th row: Gold (The Sun); Silver (The Moon); Copper (Venus); Quicksilver (Mercury); Lead (Saturn); Tin (Jupiter).

As in the case of the suggestion for the use of medicinal plants for decorative designs, alchemistic symbols also possess possibilities for a closer union of art and pharmaceutical embellishment, for in its historical development, pharmacy is closely related to early chemistry.

work himself, and he is only too willing to turn this task over to some one who is competent to perform it; any pharmacist who announces his willingness and demonstrates his capability to perform it will be the logical person to whom the physician will turn.

There is no reason why every pharmacist should not be able to do urine analysis, this constituting the greater bulk of the clinical laboratory work and when he has mastered this, instead of branching out again into the selling of some other commodity, he can very easily branch out into blood, sputum, gastric juice analysis, and even bacteriology. The easiest and cheapest way for a pharmacist to master these subjects is to attend a special course in that work which most colleges of pharmacy maintain.

The added expense to equip the average retail store with sufficient utensils to do this sort of work is very little. A microscope and possibly a hand centrifuge are the most expensive items, but the investment will more than pay for itself in a short time. The laboratory should also be equipped with plenty of test-tubes, a test-tube rack, a burette (glass-stoppered) and stand, a porcelain capsule, an albuminometer, ureometer, urinometer and a few added reagents. The total cost of the last named articles will probably not amount to more than $10. Also, an indispensable article is a good reliable text book, such as Heitzman's "Urine Analysis and Diagnosis," or, if the pharmacist intends to carry out a complete clinical laboratory work, he may find Wood's "Chemical and Microscopical Diagnosis" very helpful.

The work itself is not extremely difficult. Urine analysis is divided into four parts; physical characteristics, normal chemical constituents, abnormal chemical constituents, and microscopic examination. The whole question of success or failure in this work is based on the cleanliness and accuracy of the analyst. It does not pay to do any guesswork because through the doctor you are hired to help the patient to recover, although it is never your office to diagnose a case. As was once said; "The path of the least resistance often leads to the dwelling of despair."

FORMULAS FROM CURRENT LITERATURE

Liquid Court Plaster

(1)

Celluloid varnish, made by dissolving celluloid in purified acetone to nearly the saturation point, makes a satisfactory article for this purpose. The camphor in the celluloid is antiseptic and healing, increasing its efficiency. It does not contract very much on drying, and is thoroughly waterproof.

(2)

Pyroxylin	1 ounce
Amyl acetate	5 fl. ounces
Acetone	15 fl. ounces
Camphor	2 drams
Canada balsam	2 fl. drams
Castor oil	2 fl. drams
Oil of cloves	15 minims

Dissolve the pyroxylin in the amyl acetate and the acetone, and add the other ingredients. Keep the mixture away from the fire. It is essential that a good grade of pyroxylin be used.

Saratoga Ointment

Under this title several formulas have been published, the following being the most common variants;

(1)

Powdered boric acid	30 grains
Zinc oxide	60 grains
Oil of eucalyptus	15 drops
Petrolatum, enough to make	480 grains

(2)

Powdered boric acid	5 drams
Zinc oxide	10 drams
White petrolatum	48 ounces
White wax	1 ounce
Spermaceti	1 ounce
Eucalyptol	2 ounces

Melt the wax, spermaceti and petrolatum together, and as the mixture cools sift in the zinc oxide and boric acid, using a No. 90 sieve. Finally, add the eucalyptol as the mass becomes cooler, and stir until it sets.

(3)

White petrolatum	160 parts
Paraffin, m.p., 120°	8 parts
Zinc oxide, pure	20 parts
Boric acid	20 parts
Eucalyptol	1 part

Melt the petrolatum and the paraffin together, sift in the powders, stir well together, and add the eucalyptol. Allow to congeal, and mill carefully. The proportion of paraffin should be increased in cold weather.

Saline Antiseptic Solution

The following formula, proposed some time ago by Prof. C. H. LaWall, differs from the generally accepted type of preparations of this character in that it contains no glycerin and practically no alcohol. It is saline in taste and alkaline in reaction, and is recommended as an efficient mouth wash and nasal douche:

Sodium chloride	5 grams
Sodium borate	5 grams
Sodium bicarbonate	10 grams
Oil of spearmint	1 Cc.
Oil of eucalyptus	½ Cc.
Menthol	1/10 gram
Alcohol	5 Cc.
Fluidextract of hydrastis (aqueous)	2 Cc.
Water enough to make	1000 Cc.

Dissolve the salts in 750 Cc. of water. Dissolve the oils and menthol in the alcohol. Mix gradually with the aqueous solution of the salts. Filter and add the fluidextract of hydrastis, and finally add enough water through the filter to make 1000 Cc.

Comparative Activity of Male and Female Cannabis

Pittenger reports that on making fluidextracts of male and female cannabis by the U.S.P. process for fluidextract of cannabis, and then assaying these preparations by the official biological assay process for fluidextract of cannabis, the fluidextract made from the female plant assayed 200 per cent of the U.S.P. standard, whereas the fluidextract from the male cannabis assayed only 50 per cent of the U.S.P. standard.—(*Proceedings Pa. Ph.A.*)

Dr. A. R. Bliss, Jr., of Atlanta, has been re-elected associate referee on alkaloids by the National Convention of the Association of Official Agricultural Chemists, of Washington, D. C. Dr. Bliss is head of the department of pharmacology in the school of medicine of Emory University, Atlanta, and has served as referee on alkaloids to this national body since 1917.

The Cost of Dispensing Medicines

By CHARLES T. ALLEN

If one is to believe all he has heard in the discussions of pharmacists at meetings of their organizations during the past few years, a scientific method of pricing prescriptions that can be uniformly and consistently applied, is yet to be evolved. Such a method is now more than ever needed, not alone for the simplification its application will give to the whole question of compounding charges, but for the practical answer it will furnish to the cry of those who charge pharmacists with "profiteering." In the article here presented, which forms the major portion of a paper presented at the last annual meeting of the British Pharmaceutical Conference, the author enumerates some of the basic factors which lie close to a correct understanding of prescription pricing. While the analysis reflects the British viewpoint, yet a careful reading will show that American pharmacists have a similar problem awaiting solution.

FOR many years it has appeared obvious to me that one of the principal obstacles to the progress of pharmacy as an art is the absence of any reasoned system of ensuring adequate remuneration when that art is applied to the compounding and dispensing of medicine.

I think you will agree that the profit on dispensing should be always appreciably more than is usually obtained by an ordinary commercial transaction over the counter.

The question for the moment is how much profit do the current charges for dispensing yield, and does the art involved receive its due consideration financially? Personally, I feel sure it does not, either as regards private or Insurance dispensing. The remuneration usually obtained is quite inadequate. Primarily, because, as far as I am able to judge, there has never been any rational method of estimating the cost of such work. Without an estimate of the cost I fail to see how it is possible to carry on any work on even safe and sound lines, leaving alone any question of ensuring an adequate profit for the pharmacist.

May we consider for a few moments the system of pricing which has been in vogue for as long as we can remember? In those times there may have been sufficient latitude of profit to permit a flat rate system. Even then I cannot see how such a method could ever be efficient, or fair, either to the pharmacist or the patient.

To take one example only—can any one prove that the average pre-war charges for dispensing pills yielded a profit? Can any one tell us who was responsible for establishing the custom of charging about half price for dispensing six pills as would be charged for six doses of an inexpensive mixture taking half the time to compound?

Even those who prefer to estimate the value of their work according to the size of the bottle or the number of doses contained would probably admit that times have changed even during the last decade—especially during the past five years.

The necessity was brought forcibly to my notice when working out the cost of a series of mixtures for supply to a doctor's surgery about three years ago. In a year their cost had increased 50 per cent.

It has, of course, been obvious with the increased charges which have appeared in all directions that there could be no reason why the charges for dispensing should be any exception. At the same time, one felt that it was necessary to make an effort to arrive at some method of estimating cost in order that an adequate profit could be assured without the risk of overcharging, which should be an equally important consideration.

Is there any valid reason why pharmacists by collaborating with one another cannot arrive at a practical system of approximately estimating the cost of dispensing medicines?

It would be as well to admit that there are obviously plenty of difficulties with which to contend. A system to be efficient must not be too exacting or complicated. In the firm in which I am interested we have been working at the question at intervals for two years, and have now arrived at the stage where the matter has become no longer tedious, but interesting.

Factors in Figuring Costs

To arrive at the cost of dispensing any given prescription it appears to me to be necessary to ascertain

(1) The cost of the ingredients.
(2) The cost of the dispenser's time.
(3) Establishment charges.
(4) Cost of container.

Any pharmacist who has looked into these questions closely will have found that the cost of the ingredients is seldom the most important consideration. The cost of the dispenser's time, with establishment charges, often exceeds the cost of ingredients. That being so renders it all the more necessary that some estimate (even an approximate one) should be available to any one who desires to ensure even a profit upon dispensing a prescription. If it is desired to ensure a definite percentage of profit upon dispensing, then such particulars are absolutely essential.

To ascertain the cost of ingredients is straightforward. I do not suggest calculating these to three places of decimals, or even two. In order to save time, our firm use tables giving the dram and ounce prices of the ingredients most usually prescribed. The figures are worked as near actual cost as possible.

Cost of Dispenser's Time

With regard to the cost of the dispenser's time, there is more difficulty. In the absence of any standard value for a dispenser's time, I suggest for several reasons that the usual salary paid today to a qualified pharmacist should be taken as a basis—say, as an example, £5 per week of 48 hours; or, say, 2s. 6d. per hour, with allowance for interruptions.

The original method tried by our firm was to bulk all salaries with establishment charges and take a proportion of the total as overhead charges on the dispensing department, the proportion being based on the ratio which the returns from dispensing charges bears to the total returns of the business. As the staffs of pharmacies vary so much a method of yielding more uniform results would be preferable.

Some may say, "My dispenser is an improver, and does not earn 2s. 6d. per hour." In such case the extra allowance would help towards payment of any employer's time taken up by helping the improver with his work.

Some pharmacists may say, "My dispenser's time costs me nothing because I do my own dispensing." In such a case the 2s. 6d. per hour should be reckoned as dispensing cost, because the master pharmacist who dispenses is using his own time, which should be worth at least as much as that of an average assistant.

With regard to the practical application of such a figure, an approved table is required of the average times occupied in compounding and dispensing the various methods of administration, such as mixtures, emulsions, lotions, pills, and the rest.

A suggested table is as follows. This is merely an approximate idea of the times involved, and not the result of practical tests or decisions by pharmacists;

Suggested Time Allowances for Dispensing, Including Copying Prescriptions and Writing of Labels

$$\text{Cachets}\left\{\begin{array}{l} 6\quad 12\quad 24 \\ \hline 15\quad 20\quad 30\text{ minutes}\end{array}\right.$$

Emulsions 15-20 minutes

Mixtures, Lotions Solutions, Gargles 10-15 minutes

$$\text{Pills}\left\{\begin{array}{l} 6\quad 12\quad 24\text{ plus 5 minutes for every additional 24} \\ \hline 15\quad 16\quad 18\end{array}\right.$$

$$\text{Powders, simple}\left\{\begin{array}{l} 6\quad 12\quad 24 \\ \hline 10\quad 15\quad 20\text{ minutes}\end{array}\right.$$

$$\text{Powders, compound}\left\{\begin{array}{l} 6\quad 12\quad 24 \\ \hline 15\quad 20\quad 25\text{ minutes}\end{array}\right.$$

Plasters, suppositories and other methods of administration according to time required.

Prescriptions for substances, Pharmacopoeial preparations, and proprietaries, which are ready prepared. Five minutes.

Establishment Charges

With regard to establishment charges, I cannot suggest anything more than an approximate method of allotting them. I suggest an approximation would be very much better than nothing, and that more definite information and improvement would certainly result if it were possible for a number of pharmacists to collaborate when in a position to compare results.

Establishment charges must obviously vary considerably. If one included wages in establishment charges, the variation in different businesses would be very great. On the other hand, if you take only charges such as rent, rates, taxes, lighting, heating, cleaning, insurance, telephone, repairs, stationery, advertising, printing, with the salaries of any employes (dispensers excepted) who are considerably employed on work connected with the dispensing department, it is possible to deal with the question fairly accurately.

If we take a case in which the returns from dispensing charges represent one-third of the total returns, it appears to me to be fair to apportion at least half the establishment charges just enumerated to the dispensing department, because the conduct of the dispensing department requires a larger portion of available storage space and a greater expenditure of time on the work turned out than that involved by the actual dispensing time. Finishing off; cleaning utensils, filling bottles, delivery would all have to be covered by the establishment charges.

Comparative Figures Needed

I venture to suggest that it would be to the advantage of pharmacist proprietors to compare figures in respect to such charges. This can be done without actually disclosing the exact extent of one's business.

Is there any special reason why these charges should differ enormously in any particular area for *similar* types of pharmacies? Let us take as an example a pharmacy which does a considerable amount of dispensing, one-third of returns due to dispensing charges, in which establishment charges (as enumerated above) amount to 17 per cent of returns. Let us suppose these charges worked down to an hourly rate of 5s., or, allotting half to the dispensing department, 2s. 6d. If one knows the average number of prescriptions dispensed per hour, an approximate idea of the amount of establishment charges to be covered in respect of any particular prescription can be obtained, or as an alternative method, and especially in cases when considerable time is involved, the amount of establishment charge could be apportioned from the hourly rate.

Take another example of a provincial pharmacy where dispensing work is by no means plentiful, and returns are due chiefly to general business and photographic work. In this case, presume the establishment charges are 10 per cent of returns and worked out at hourly rate of 1s. 3d. per hour. When dispensing work is not a continual operation and merely occasional, it would not be feasible to allot any special portion of that sum to the dispensing department. I suggest it would be fair to take the whole amount, 1s. 3d. per hour, as the establishment charge on the dispensing department when dispensing is in progress, because in most of such cases it means that the master pharmacist is the only qualified pharmacist on the premises, and when dispensing or supervising he cannot be closely engaged otherwise.

Application of the Suggestions

May we apply these suggestions to a simple mixtures and compare the results? A and B represent the two types of pharmacies considered above.

	A.	B.
Sodium salicylate, 2 drams	1d.	1d.
Potassium citrate, 2 drams	2	2
Solution of ammonium acetate, 1 ounce	½	½
Camphor water, 4 ounces	2	2
Water, to 6 ounces	—	—
Cost of ingredients	5½	5½
Dispenser's time	5	5
Establishment charges	5	2½
Container	3	3
Approximate actual cost	18½	16
Add 5%	10	8
Suggested minimum charge	2s. 4d	2s.

=33⅓% net profit.

Whether by variations in individual ideas as regards the cost of ingredients they total to 5½d. or not, they cannot be much more or less, nor the cost of the container. It is the time occupied in dispensing and the establishment charges which are in this case and in the majority of instances the more important considerations.

Again, these two examples of different types of pharmacies in which the establishment charges probably vary to as great extent as would occur in any other two examples which could be taken, demonstrate that even a large difference in establishment charges need not effect a great difference in the total cost of the work. At first sight such a method of pricing prescriptions as the one suggested might appear to be complicated. The contrary is the fact because ultimately it becomes easy to work with practice.

A Fair Net Profit

A net profit of 33 1-3 per cent is merely suggested as possibly a fair one. It may be insufficient. If 25 per cent net profit is taken as a good average net profit for a chemist's business, then the dispensing of medicines should certainly yield a greater profit than ordinary commercial transactions. Whether such extra profit should be designated as a professional fee could be left to the individual to decide when it had been obtained. In any case, a business-like method of pricing prescriptions would be for the use of the pharmacist, and would not commercialize the art of dispensing.

Cost of Dispensing Pills

With regard to the cost of dispensing pills, the fact which many of us have always suspected—namely, that the usual charges for pills are quite inadequate—can be demonstrated. Generally the cost of the ingredients is a small item. May we consider the following example of varying numbers of pills from the same prescription when the ingredients for six cost one penny:

	6 pills		12 pills		24 pills	
	A.	B.	A.	B.	A.	B.
Cost of ingredients	1d	1d	2d	2d	4d	4d
Dispenser's time	7	7	8	8	9	9
Establishment charges	5	2½	5	2½	5	2½
	13	10½	15	12½	18	15½
33⅓% net profit (approx)	1s. 9d.	1s. 6d.	2s.	1s. 8d.	2s. 3d.	2s.

In the case of unusual prescriptions or those containing expensive ingredients a system such as the one suggested enables one to estimate the approximate cost of dispensing with a degree of accuracy which is comparable to the accuracy with which the pharmacist is trained to carry out the work of dispensing. Is there any logical reason why accuracy in charging for our work should not receive as careful consideration as, let us say, means and ways of training pharmacists in pharmacy? To my mind the one is as essential as the other. It is not to be expected that in the future good material will be attracted to pharmacy with a liking for the work unless there is better remuneration. A rational system of pricing prescriptions would have to my mind a great effect on the future of pharmacy as an art.

I suggest that this subject is worth the consideration of pharmacists' associations, of individual pharmacists, and discussion today. I believe there would be little difficulty in the smaller towns for pharmacists working along some such lines as those suggested to arrive at a method of agreeing to a series of minimum charges for dispensing.

Why Wood Alcohol Is Fatal

Dr. Reid Hunt, a leading American authority on the effects of alcohol, the head of the Department of Pharmacology of the Medical School of Harvard University, formerly of Johns Hopkins, and for several years chief of the Division of Pharmacology of the United States Health Service, has prepared a bulletin on wood alcohol, at the request of the American Chemical Society.

"Wood alcohol," writes Dr. Hunt, "has become known as the American poison on account of the frequency with which cases of poisoning have been traced to it in the United States. Despite this fact, there is still a lack of appreciation of its dangers and of an understanding of its nature. It cannot be too strongly emphasized that there is not a single property of wood alcohol, except its poisonous effects, by which anyone but a chemist can distinguish between purified wood and ordinary or 'grain' alcohol. The appearance, odor and taste of the two are so strikingly alike that even chemists who have had much experience with them are unable by these properties to distinguish between them with certainty. The difficulty is, of course, greatly increased when essences, flavors or coloring matters are added, as is the case in the spurious drinks now being offered for sale.

"Pharmacologists, moreover, from experiments on dogs, had, years before, shown that the action of wood alcohol upon the animal organism is fundamentally different from that of ordinary alcohol. This difference may be briefly summarized. When ordinary alcohol is taken into the body it is rapidly converted into water and carbonic acid gas which are harmless substances, always present in the body, and any excess of which is promptly eliminated by the kidneys and lungs. Wood alcohol, on the other hand, instead of being changed into harmless substances which are easily eliminated remains in the body as such for a considerable time and is then slowly converted into another poison—formic acid—the acid which is found in ants. These poisons and perhaps a third formed from the wood alcohol, formaldehyde, attack the brain and other organs and cause death or blindness.

"Poisonousness is an inherent quality of wood alcohol," continued Dr. Hunt. "It is as impossible to prepare non-poisonous wood alcohol as it is to prepare non-poisonous prussic acid.

"Individuals vary considerably in their susceptibility to wood alcohol; some die or become blind from amounts which seem to do no harm to others. This is true, however, of all poisons. Death or blindness has resulted from two teaspoonfuls and from one or two tablespoonfuls of the poison. Sixty to seventy-five per cent of those taking four ounces, that is a quarter of a pint or half a 'glassful,' have died or become permanently blind."

Editor's Correspondence

WANTED: CONSTRUCTIVE CRITICISMS

Editor, Pharmaceutical Era:

Dear Sir: Will you kindly give publicity to the statement below?

As chairman of the Section on Pharmacy and Dispensing of the A.Ph.A., I am sending out an invitation and urgent request to all who are interested in the practical work in the store to present papers before this Section next May.

Because of the meeting coming so much earlier than usual, it will be necessary to have the titles of papers furnished me not later than the middle of March, and it is desirable that the papers be received at the same time or as soon after as possible.

Some subjects which have been suggested are:

1. Constructive criticisms of the U.S.P. This is particularly pertinent, as the U.S.P. Convention follows the next week.
2. The part which the pharmacist is to play in the revision of the U.S.P.
3. Consideration of new remedies.
4. Papers dealing with prescription work.
5. The pharmacist as a clinical chemist. Papers from those who have had experience along this line are especially desired.
6. What professional work can the pharmacist do to take the place of that which is passing into the hands of the large manufacturer?
7. A discussion of the affiliation of the drug clerk organizations with labor unions, and drug clerk strikes.
8. Is it desirable to have laws regulating the hours which the pharmacist may work?

Papers bearing on any phase of practical pharmacy will be very acceptable.

E. A. Ruddiman,
Chairman.

Nashville, Tenn., Jan. 7.

PORTRAIT OF ETHER PIONEER

Editor, Pharmaceutical Era:

Sir:—There hangs in the library of the New York College of Pharmacy, it may afford pleasure to the alumni and other friends of the College to know, a beautiful, gilded photograph of that fine work of art mentioned in Charles M. Ford's paper, published in the December number of the Journal of the A.Ph.A., as having been placed by the University of Pennsylvania in its medical building "to the memory of Crawford W. Long, who first used ether as an anesthetic in surgery." It may also cause a thrill of satisfaction to know that the distinguished sculptor-physician himself, who designed the medallion, presented this photograph to the College. At the same time, he offered, through his no less distinguished friend, Dr. H. R. Storer, of Newport, R. I., to help complete the collection of pharmaceutical medals of which Dr. Storer for a year or more has been so active a promoter.

Respectfully,

New York, Dec. 29, 1919. Adelaide Rudolph.

SPIRITS STORED IN BONDED WAREHOUSES

Banks Will Lose $20,000,000 Unless Remedial Steps Are Taken—Commissioner Roper Suggests Two Plans for Relief

According to a letter recently sent to Representative James W. Fordney, chairman of the House Ways and Means Committee, there are now in bonded warehouses of the country approximately 62,000,000 gallons of whiskey, approximately 4,700,000 gallons of rum, brandy, gin and other beverage spirits, and approximately 2,500,000 gallons of non-beverage spirits, making a total of approximately 69,000,000 gallons.

The following table prepared by the Commissioner shows the States in which the spirits are stored:

States	Gallons
Kentucky	38,134,858.2
Pennsylvania	12,297,075.9
Maryland	6,001,726.0
Illinois	4,467,220.7
Ohio	2,162,932.2
New York	1,537,661.8
California	1,502,112.2
Indiana	1,261,237.1
Massachusetts	609,249.3
Louisiana	542,286.0
Missouri	364,239.5
West Virginia	224,738.8
New Jersey	58,549.1
Wisconsin	46,682.0
South Carolina	18,916.8
Alabama	16,942.6
Virginia	5,837.6
Connecticut	5,016.3
Michigan	3,433.1
Arkansas	1,676.6
Total	69,262,391.8

Commissioner Roper also suggested two plans for the relief of the owners of these stocks of bonded liquors still remaining in the country, stating that unless some relief is granted, the banks of the country would lose $20,000,000, which represented the total loans on the liquor or warehouse receipts. These suggestions were made in reply to a letter sent to the Commissioner by Chairman Fordney asking what should be done with the huge stocks of liquor in bond, the Chairman fearing that many financial institutions would be hard hit if the liquor became a total loss.

Commissioner Roper's plans, which are said to meet with the approval of many prohibitionists in Congress, are as follows:

1. Purchase of all the bonded liquor by the Government, by issuance of Treasury certificates which can be liquidated as the liquor is sold for legitimate purposes.
2. Concentration of the liquor in a few big warehouses, with the Government assuming part of the carrying charges until it is used for medicinal purposes.

According to the Commissioner, either plan would extend over a period of many years, because of the small legitimate demand for liquor. In any event, he said, some immediate action must be taken to increase the guards at the bonded warehouses.

GREEKS TO PROHIBIT HASHEESH

The Greek Government, after repeated requests from the British Government, it is reported, is to prohibit the cultivation of Cannabis indica (hasheesh), the chief product of the Mantinea district. It is proposed to indemnify the growers by the assignment of a sum equal to ten years' revenue from the taxation of the crop.

THE QUESTION BOX

The "How to Do It" Department

CONDUCTED BY PHARMACEUTICAL EXPERTS

For the benefit of ERA Subscribers

Bitter Root: Dog's Bane

(J. M. S.)—Although you furnish no description of the plant producing the root samples you have sent, and no information relating to the localities in which the plant is found growing, the roots are identified as those of *Apocynum androsaemifolium*, commonly known as "bitter root" or "dog's bane." According to botanical authorities, the plant is common from Canada south to Georgia, Britton & Brown ("Illustrated Flora of the United States and Canada") stating that in your own State it is found in fields and thickets, in some districts, at an altitude of 3500 feet. The plant grows from 1 to 3 or more feet in height, and has a long running root which bears some resemblance to the root of Indian hemp (*Apocynum cannabinum*), but from which it can be distinguished by close examination. When dry, the root is shriveled longitudinally and often marked by transverse fractures that extend through the bark and show the white woody center. Occasionally the bark scales off. The bark breaks with difficulty, its central part being woody. Externally, the bark is dark brown, white upon its inner surface, and readily separates from the central or ligneous part of the root; it possesses a very bitter taste, hence one of its most common names, "bitter root."

Other names recorded by different authorities as being applied to this plant are: American ipecac, catch fly, fever twig, fly trap, honey bloom, ipecac milk, milkweed, spreading dog's bane, wandering milkweed, rheumatism weed, etc. According to King's "American Dispensatory," the similarity of this plant to *Apocynum cannabinum* has caused herb gatherers and country people in some sections to apply indiscriminately the names "bitter root" and "Indian hemp" to both species. We are informed that the demand for bitter root in the market is comparatively limited, its use being mostly restricted to domestic medicine and herbal practitioners. It is said to possess diaphoretic, tonic and cathartic properties, being given generally in the form of an infusion (1 ounce of the root to 1 pint of water) in doses of 1 dram to 1 ounce. A fluidextract is occasionally made; dose, from 1 to 15 minims.

Making Rubber Erasers

(F. C. C.)—We have had no practical experience in making rubber erasers, and on investigation are informed on pretty good authority that the exact composition of special rubber compounds for erasing pencil marks is largely a "trade secret" of the particular manufacturer, a statement which seems to be borne out by the fact that no specific formulas for particular compounds of this character are revealed in a very thorough search of the technical reference works at our command. As a hint, however, one who has been connected with the industry informs us that the most common constituent of the erasers of the type to which you refer is not soap as you suppose, but fuller's earth or soap stone, the particular abrasive employed being first reduced to a very fine powder, which is then incorporated with a mixture of a "binding gum which does not become brittle on drying," some rubber or rubber "substitute", and an appropriate filler. It is also hinted that finely powdered soap tree bark or an extract of soap bark forms one of the ingredients, but this is doubtful. According to our informant, the percentage of rubber in some of these mixtures is practically nil. Once the "mass" is thoroughly kneaded, it is pressed into forms of various sizes. In erasers designed for certain purposes, finely powder pumice stone is used.

Perfuming Moving Picture Halls

(D. M. D. Co.)—"Pharmaceutical Formulas" contributes the following formula which is attributed to a correspondent who has had much experience in such matters:

Oil of lavender	4 ounces
Oil of bergamot	2 ounces
Oil of peppermint	20 drops
Oil of cloves	1 dram
Benzoic acid	1 dram
Alcohol, enough to make	1 pint

Mix and dissolve. With a cheap atomizer spray the perfume on the seats of the theatre, dress circle, boxes, etc., and sprinkle about an ounce or so at each inner entrance. Other plans are to mix the perfume with a large quantity of milk and sprinkle or wash the floor; or to combine it with French chalk and sprinkle over the floor.

Other formulas suggested are:

Thymol	1 ounce
Oil of eucalyptus	4 fl. ounces
Oil of lavender	4 fl. ounces
Alcohol	5 pints
Water, enough to make	1 gallon

Dissolve the thymol and the oils in the alcohol, add enough water to make 1 gallon, and filter if necessary.

Oil of bergamot	48 minims
Oil of cassia	10 minims
Oil of cloves	30 minims
Oil of lavender	20 minims
Oil of lemon	48 minims
Tincture of balsam of tolu	96 minims
Tincture of benzoin	2 fl. ounces
Alcohol	10 fl. ounces
Acetic acid	2½ fl. ounces
Water, to make	20 fl. ounces

Mix, and spray, diluting with water, if desired.

A French idea for perfuming the air is based on the fact, so it is stated, that powdered oxalic acid absorbs large quantities of the fragrant essences and retains the odors. The oxalic acid thus treated is divided into powders, each one being accompanied with a powder of sodium carbonate. When both powders are placed in a glass of water the fragrant constituents are driven off with the carbon dioxide, and thus distributed about the room. Although the poisonous oxalic acid can be replaced by citric or tartaric acid, the first-named is said to serve the purpose best.

Cleaning Panama Hats

(Dr. E. L. J.)—While very few panama hats are in evidence in these latitudes during the winter season, a request for a method for cleaning such hats is not unseasonable when it comes from a subscriber located in the tropical regions. Here are two methods which have been suggested for the purpose;

Plunge the hat into tepid, soapy water (100 grams of Marseilles soap in 5 liters of water), and scrub the hat gently with a small brush until thoroughly impregnated. Rinse in clean, soft water to get rid of the lime, which causes a yellow coloration for a time. After thorough rinsing, place the hat in a permanganate bath (5 liters of water, 25 grams of potassium permanganate, and 25 grams of sulphuric acid) and leave it there for several hours, occasionally stirring until the material is uniformly colored brown; with new hats, the impregnation usually requires some time. Remove the hat and plunge it into a bath containing 100 grams of sodium bisulphite, and 50 cc. of hydrochloric acid in 5 liters of water, conducting the operation in open air. Allow the hat to remain in the bath until complete discoloration results. Finally rinse in clean water, repeating the operation until the sulphurous acid is completely washed out. It is said that the first two baths may be employed a second time, but the third should be made only as required.

Another method; Dissolve 8 ounces of potassium binoxalate in one gallon of hot water, and add one-half pound of flowers of sulphur to the solution, which can be used hot or cold. Then scrub the hat thoroughly with the solution, taking care not to injure the hat. Have a box of dry flowers of sulphur into which occasionally dip the brush, as the "grit" of the sulphur will help to loosen the dirt. After thoroughly cleaning the hat in this manner, rinse it well in running water, and then hang it in the sun to dry and bleach. In applying the sulphur paste, see that every part of the hat is covered with the paste except the inside. After bleaching and the hat is thoroughly dry, take a stiff brush and brush off all adhering sulphur. The hat is then ready for blocking, forms for which may be obtained from certain manufacturers. This method, we are told, is that followed by many hat cleaners in the various large cities.

Cleaning Discolored Teeth

(R. & C. Co.)—While believing that the care of the teeth should be left to the qualified dentist, we give the following formulas taken from our files;

To Clean Black or Discolored Teeth: Rub the teeth with a paste made by mixing powdered cuttlefish bone (os sepia) with a 4 per cent solution of hydrogen peroxide. After using the paste, the mouth should be rinsed out with water. In this way it is claimed that the teeth may be whitened in a few minutes, and the operation will not injure the enamel of the teeth.

For Bleaching Discolored Teeth: Washed sulphur, 50 parts; calcined magnesia, 40 parts; menthol, 2 parts; glycerin, enough to make a thin paste.

Or, moisten the corner of a linen handkerchief with hydrogen peroxide, and with it rub the teeth, repeating the rubbing occasionally. Use some exceedingly finely pulverized infusorial earth or pumice ground to an impalpable powder in connection with the hydrogen peroxide, and the job will be done more quickly than with the peroxide alone. As a general proposition, the use of any gritty powder tends to destroy the enamel of the teeth and its application should not be practiced.

Test for Wool in Fabrics

(R. W. S.)—To the practiced eye, the microscope is a valuable help in identifying the various fibres which are used in the manufacture of cloth, methods for which are to be found in many reference works on microscopy. However, some months ago H. L. Gray described in one of the journals of the American Chemical Society the following method for the detection of wool fibres in material which has been so treated and dyed in dark colors as to render its identification difficult; The fibres to be examined are placed on a micro slide and covered with two drops of a 30 per cent sodium hydroxide solution. The slide is then gently heated over a flame until vigorous boiling just takes place, whereupon it is immediately removed and examined under the microscope. Wool fabrics become greatly swollen, in some cases partially dissolved, and present the appearance, which is characteristic, of being full of cells or bubbles. Undyed wool gives a dirty yellowish brown color. Cotton and wood pulp fibres are unchanged except that they become somewhat clearer and slightly shrunk.

Among other simple tests which have been devised, Millon's reagent (mercurous and mercuric nitrate) colors the animal fibres red, but not the vegetable fibres. Liebermann gives the following test; Prepare a fuchsin solution, add solution of potassa drop by drop until it is decolorized, filter, and dip in the sample of the goods. Wool or silk fibres are colored red, cotton remains colorless.

Satdler ("Industrial Organic Chemistry") gives Remont's process for determining wool, silk and cotton when mixed in the same fabric: Four pieces of about two grams' weight each are taken. Three of these are boiled for a quarter of an hour in 200 cc. of three per cent hydrochloric acid, which is renewed if the liquid becomes strongly colored and the samples are then well washed. The dressing is thus removed and the coloring matter in the case of the cotton, but only slightly in the case of the wool and silk; then weighting of the silk with iron salts is also completely removed by the hydrochloric acid if the weighting does not exceed 25 per cent of the weight of the silk, leaving the fibres chestnut brown in color. Two of the samples thus treated are dipped for one or two minutes into a boiling solution of basic chloride of zinc, sp. gr. 1.69; then thrown into water and washed first with acidified water and then with pure water. This removes the silk. The basic chloride of zinc solution is prepared by heating 1000 parts of zinc chloride, 40 parts of zinc oxide, and 850 parts of water.

One of the two samples freed from silk is then boiled gently for a quarter of an hour with 60 to 80 cc. of caustic soda solution, sp. gr. 1.02. This is best done with an inverted condenser, so that an injurious concentration of the soda solution is avoided. Wash gently without too much rubbing and the wool is removed. All four samples are now washed for a quarter of an hour with distilled water, pressed out, dried in the air, and weighed. The first will weigh as before, 2 grams or nearly, a slight difference of a few milligrams being neglected; the difference in weight between the first and second samples gives the dressing; that between the second and third gives the silk; that between the third and fourth the wool present, and the weight of the fourth sample the vegetable fibre present. This, it is stated, is slightly attacked by the soda solution, and in the case of cotton it is usual to reckon 5 per cent as the loss from this cause.

New Books for Pharmacists

YEAR-BOOK OF PHARMACY comprising abstracts of papers relating to pharmacy, materia medica and chemistry contributed to British and foreign journals from July 1, 1918, to June 30, 1919, with the transactions of the British Pharmaceutical Conference at its fifty-sixth annual meeting held in London, July 22 and 23 1919. 12 mo., 519 pages, cloth. London, J. & A. Churchill.

This annual corresponds with the Year-Book of the American Pharmaceutical Association, presenting in a similar manner abstracts of scientific papers of general interest to pharmacists throughout the world. These abstracts include an account of current work on chemistry, bacteriological and clinical tests, essential oils, glucosides, ferments, and sugars; inorganic chemistry, materia medica, galenical pharmacy, dispensing notes, new remedies, new apparatus, new processes, new formulas and other investigations of interest to the pharmacist. That many drugs and chemicals still await the investigations of the research worker becomes evident when one reads on page 304 the list of subjects that have been suggested for such treatment. As showing the character of some of these, the question is asked under "acetylsalicylates": "Which is the most suitable salt for pharmaceutical purposes? Do the salts possess any advantages over acetylsalicylic acid?" Or, under "solvents": "Experiments are needed with a view to extending the use of solvents such as acetone, carbon tetrachloride, dichlorethylene, petroleum ether, amyl acetate, etc., in pharmacy." The subjects suggested in the research list number about forty, the one pertaining to drugs enumerating about a dozen different drugs, each of which calls for individual investigation. Taken in its entirety, the list in scope is sufficiently large to "hold" would-be research workers for a time.

The sessions of the Conference covered in this volume were held in Pharmaceutical Society's House. London, the retiring president, William Kirkby, of Manchester, delivering an address in which he emphasized co-operative research, and stated that manufacturers must be prepared to pay the full value therefor or they would be beaten by others. The Harrison Memorial lecture, which was delivered at one of the sessions of the Conference by Francis H. Carr, F.I. C., appears in the Year-Book in full, the author presenting a comprehensive and valuable outline of Lieutenant-Colonel E. F. Harrison's services to pharmacy and his country until his death, which occurred just a week before the declaration of the armistice, on Nov. 4, 1918. The annual meeting of the Conference for 1920 will be held at Liverpool.

AMERICAN POCKET MEDICAL DICTIONARY containing the pronunciation and definition of all the principal terms used in medicine, surgery, dentistry, veterinary medicine, nursing, and kindred sciences; with over 60 extensive tables. Edited by W. A. Newman Dorland, A.M., M.D., member of the Committee on Nomenclature and classification of diseases of the American Medical Association; editor of the "American Illustrated Medical Dictionary." 11th edition, illustrated. 4x6½ inches, 717 pages, full leather limp. Philadelphia, W. B. Saunders Company.

The fact that this dictionary has run through many editions since its first appearance in 1898 is important in showing that there has been a constantly growing demand for the book, a demand which would not be in evidence had the scientific and professional character of the definitions employed failed to meet the wants of students of medicine and the allied professions. This new edition includes and defines a large number of words which have recently found their way into medical literature, in this way bringing the vocabulary up to date, and giving definitions which, though briefly stated, are on the whole sufficiently comprehensive to answer the needs of students and the average practitioner. Condensation of a large amount of information in the dictionary has been accomplished through the use of tables, each of which appears in proper alphabetical order, making reference to the subjects thus tabulated easy and convenient for quick consultation. The table of doses in both apothecaries and metric systems, and the veterinary dose table are models of condensation.

PRACTICAL RETOUCHING. Edited by Frank R. Fraprie, S.M., F.R.P.S., editor of American Photography. 36th thousand, revised and enlarged, 12 mo., 55 pages, cloth. Boston, American Photographic Company.

This little volume is No. 9 of a series on practical photography and is designed to give up-to-date, usable information on the subject of retouching. The very best retouchers are born, not made, and the highest degree of skill cannot be taught by books. But there can be no question that much information can be acquired by a clear statement of definite methods of procedure, illustrated by actually occurring examples. This is the plan followed in the publication of this little book; the materials employed are first described, then followed by an elucidation of the technique and the work to be accomplished by the operator. The instructions to the novice are about in this order: (1) Be content with matching the density about the defect (on the negative); (2) Make no abnormal marks; and remember (3) Too much is more than enough. There are many technical details to be considered in "building" a satisfactory negative, and it would appear that most of them have been described in this little book.

LABORATORY NOTES No. 2. Scientific Department Staff, Frederic B. Kilmer, Ph.C., director, and others. 12 mo., 67 pages. New Brunswick, N. J. Johnson and Johnson.

This book, according to Director Kilmer, is largely intended to record the observations of the Scientific Staff upon the materials which Johnson and Johnson handle, while incidentally giving an account of the inside workings, including the plan and scope of his department, the examination of goods received, the examination of manufactured products, and special processes used in the bacteriological testing of ligatures and dressings, absorbent cotton and gauze, and belladonna extract and plaster. The book also contains a monograph on the phenol coefficient of germicides, water, distribution of formaldehyde gas in the air, and the cultivation of belladonna. Numerous half-tone cuts embellish the text. While not intended for general distribution, readers interested in the subject discussed can secure a copy on request to the publishers.

THE APPLICATIONS OF THE PRINCIPLES OF BREEDING TO DRUG PLANTS, particularly Datura. By C. M. Woodworth. University of Wisconsin Pharmaceutical Experiment Station.

This bulletin of 32 pages contains an account of the investigations undertaken by the author to improve the culture of drug plants by the application of well-established principles of breeding. In his investigations he has made use of datura, the ordinary jimson weed, from which by judicious cross breeding he has been able to produce strains which excel in the factors making up the yield of drug, namely, yield of leaf, and percentage of alkaloid in the leaf. The study is recommended to the attention of growers of medicinal plants who seek to improve the economic value of their crops. The influence of the Mendelian scheme of inheritance has been an important stimulant to investigation in this particular field, and, according to the author, the work is still going on at a rapid rate.

ORGANIC CHEMICAL REAGENTS. By Roger Adams, O. Kamm and C. S. Marvel. 8 vo., 79 pages. Published by the University of Illinois.

This bulletin contains methods for the preparation of thirty-two organic chemicals, especially in lots of one-half to five pounds, which have been studied during the past two years at the University of Illinois. But the methods described are in only a few cases new, and are in general those which already appear in the literature but with such details added as will enable a man who has had a reasonable amount of experience in organic chemistry to duplicate the results without difficulty. Explanation of the conditions to be observed in manufacture is given, and an endeavor has also been made to use procedures adaptable to large scale production, for example, the avoiding of extractions wherever possible; the substitution of a cheap solvent for a more expensive one; or the introduction of mechanical agitation, an extremely important factor in the success of many commercial processes. With each preparation a complete bibliography of the known synthetic methods is given, and wherever more than one method has been studied in the laboratory the results of each have been included.

With the results of these studies as a guide, advanced students, as well as manufacturers should experience no difficulty in preparing these organic chemicals which, previous to the recent war, were almost entirely of German origin. The University announces that a second bulletin containing the directions for thirty or more compounds is in the process of preparation.

ESSENTIALS OF PHARMACY with questions and answers. By Clyde M. Snow, Ph.G., A.M., associate professor of pharmacy, University of Illinois School of Pharmacy; graduate instructor in pharmacology, University of Illinois College of Medicine, etc., etc. 8 vo., 734 pages, cloth. St. Louis, C. V. Mosby Company.

This text-book differs from most treatises on pharmacy in that the information it contains is presented in catechetical form, a method as old as Socrates, the author stating that in his observations incident to seventeen years of continuous service as an instructor in pharmacy in the University of Illinois, it is apparent that a greater number of students will acquire a more accurate knowledge of the subject in the short time allotted to the presentation of this branch through the medium of questions and answers than by perusal of an exhaustive treatise on pharmacy. While admitting that cram methods in the study of pharmacy are to be frowned upon, he further substantiates his statement by saying that an examination of some of the text-books revealed such palpable padding with non-essential material that there seems to be a field for a book which will get away from the ordinary quiz-compend with its lack of correlation of subject matter and the very exhaustive books which best serve as complete reference works on pharmaceutical subjects.

That he has presented a book of this character is obvious. An examination of the material assembled shows that in the main the questions follow each other in logical sequence, each of the branches of science contributing to an understanding of the various pharmaceutical processes and their operation presenting all of the questions pertaining to the particular branch in order. In this way the continuity of a regular system is sure to be helpful to the student, for it gives him a comprehensive view of such divisions of the subject before he is taken into another and too often a somewhat unrelated field. Thus, under heat and its applications are considered in question and answer style, definitions of heat, its different manifestations, means of measuring heat, and the applications of heat, as vaporization, boiling, distillation, sublimation, ignition, heat effects on organic substances, etc. Then comes a consideration of such phenomena as solution, osmosis, dialysis, crystallization, precipitation, percolation, etc., a thorough understanding of which is necessary, if one is to become a successful pharmacist. The different steps in the manufacture of the preparations of the U. S. Pharmacopoeia and National Formulary are then taken up, the preparations being arranged in classes so that all information common to waters, solutions, elixirs, glycerites, etc., is presented with the class to which it relates.

In scope, the book covers the field of pharmacy in a comprehensive manner. Indeed, most of the questions likely to be asked by boards of pharmacy will be answered somewhere in this volume, including not only questions relating to chemistry and pharmacy proper, but to doses, therapeutics, antidotes, and most of the other things a druggist should know. A comprehensive index makes it possible to refer quickly to any specific information given in the book.

SOME PERSONAL RECOLLECTIONS and private correspondence of Dr. Crawford Williamson Long, discoverer of anaesthesia with sulphuric ether, together with documentary proofs of his priority in this wonderful discovery. By Jos. Jacobs, Phar.D., Atlanta, Ga.

One cannot complete the reading of this pamphlet prepared with so much care by Dr. Joseph Jacobs, who, in his boyhood worked as an apprentice in the pharmacy of the Longs & Billups, one of whom was Dr. Crawford W. Long, whose claim to priority in the use of ether as an anaesthetic is now generally conceded to be established. Dr. Long was born at Danielsville, Ga., Nov. 1, 1815, completed his academic studies at Franklin College, University of Georgia, in 1835, and studied medicine in the medical department of the University of Pennsylvania, graduating therefrom in 1839. For nearly forty years he was engaged in the practice of medicine, his death occurring at Athens in 1878. During life he had a wide acquaintance among the prominent men of the South, among them being the Cobbs, Alexander Hamilton Stephens, Robert Toombs and Henry Clay.

The first publication by Dr. Long of his discoveries as to ether in 1842, 1843, 1844, 1845 and 1846 appeared as a contribution in the *Southern Medical and Surgical Journal* of December, 1849, the author giving therein a full account of his use of ether in surgery up to that time. Apparently it took the urging of his friends to induce him to read a paper on the subject before the Georgia Medical Association in 1853 to offset the persistent claim of those who were besieging Congress for pay for their alleged "discoveries" relating to the use of ether in 1846. As a result of this paper, the society by resolution expressed at the time (1853) the opinion that Dr. Crawford W. Long was the first person "who used sulphuric ether as an anaesthetic in operations," and as "an act of justice to him," his claims as to priority in the use of ether were recommended to the consideration of the American Medical Association.

Dr. Long was a typical pioneer and representative of the progressive element in American medicine, as the several memorials erected in his honor testify, and Dr. Jacobs is to be congratulatet on the able manner in which he has assembled the biographical and professional facts relating to his early "tutor and mentor," who, also, at one time, was one of the proprietors of a pharmacy.

The Progress of Pharmacy

Adulteration of Black Hellebore Root—

Examination of an importation of "black hellebore root" by experts of the Bureau of Chemistry disclosed that a monocotyledonous rhizome and root had been substituted in part for those of *Helleborus niger.* The spurious material is light brown in color, tough, and somewhat gummy in texture, impossible to powder by ordinary methods. Black hellebore, on the contrary, is dark brown or black, brittle and easily powdered. The substitute is also differentiated by the monocotyledonous character of the vascular bundles. It resembles more closely the white and green hellebores (*Veratrum album* and *Veratrum viride*). It differs from these in that the rhizome and roots lack starch, which occurs in marked amounts in veratrum, and in the character of the small rootlets, whose lignification is confined to the large vessels which are arranged in radial strands, whereas in veratrum lignification is also evident in numerous small metaxylem cells which form the center of the rootlets and fill the space between the large vessels, whose radical arrangement is less evident. The rootlets of veratrum are characteristically annulated or wrinkled transversely, whereas those of this material are wrinkled longitudinally. The identity of the spurious product has not as yet been ascertained. The department will recommend the detention of "black hellebore root" found to consist in whole or in part of species other than *Helleborus niger.*

Rheum Rhaponticum as a Substitute for Rhubarb—

The rhizome of *Rheum rhaponticum,* also known as "Austrian rhubarb" or "rhaponticum," which in a number of instances has been substituted for genuine rhubarb, consists usually of rhizome branches, smaller in diameter and more conical in shape than those of the rhizome of genuine rhubarb. The roots and rhizomes show a normal structure, while within the normal, less conspicuous cambium ring the rhizome of genuine rhubarb shows several open and abnormally developed vascular bundles characterized by prominent pith rays, giving the bundles a stellate appearance. Rhaponticum has properties somewhat similar to those of rhubarb, but is inferior to it. The Bureau of Chemistry recommends the detention of rhubarb found to consist in whole or part of material obtained from *Rheum rhaponticum.*

Solidified Spirit—

This product was much in vogue for use in the trenches as a ready method of heating food. It is made as follows: Melt 4.5 parts of stearin and then add to it 0.5 part of sodium carbonate (to saponify) and 95 parts of spirit, heating the mixture with proper precautions in a closed vessel for an hour. Coloring matter may have been previously dissolved in the spirit. The finished mass is cut up into cubes or run into tin boxes ready for use. Solidified eau de cologne is made in a similar way.—(*Ch. & Dr.*)

Benzyl Alcohol—

This substance, also known as phenmethylol, is an aromatic alcohol occurring as an ester in tolu and other balsams, and produced synthetically. It has recently come into use as a local anesthetic, being employed either by injection or by application to mucous membranes. It is claimed to be practically non-irritant and non-toxic in ordinary concentration and dosage. From 1 to 4 per cent solutions in physiological salt solution are commonly used for injection anesthesia.—(*J.A.M.A.*)

Spherical Crystals—

Having noticed more than twenty years ago that the alloys of tin and antimony yield what appear to be cubic crystals and those of tin and arsenic, rhombohedral, flat plates, Dr. J. E. Stead made a trial to find how the metals would arrange themselves when the three elements were alloyed by fusion and the liquid allowed to cool slowly. The results, which he described before the Institute of Metals, were astonishing, for the crystals found in the matrix were in the form of incomplete spherical shells, the radii of which were minute or great in proportion to the time allowed for development. When solidification was effected in 1 second, the radius solidification was effected in one second, the radius was less than ½ min., but when it was protracted for an hour it was 5 min., or more. The most perfect structural arrangement of the crystals was obtained in an alloy containing 70 and 85 per cent of tin, 25 and 18 per cent of antimony and 4 to 5 of arsenic. Experiments with various proportions of the three elements showed that while about 2.5 per cent of arsenic was required to produce slightly curved crystals in the presence of 25 per cent of antimony, even 0.5 per cent arsenic when the antimony was reduced to 3.75 per cent, yielded curved segments in the upper layers. The alloys are of no commercial value, though they might be used for the production of vases, buttons or paper weights.—(*J. Ind. Chem.*)

Sodium Ferrocyanide—

Sodium ferrocyanide, yellow prussiate of sodium ($Na_4Fe(CN)_6.10H_2O$), is used in making certain blue colors, such as Prussian blue, Chinese blue, and Paris blue, which are employed extensively in dyeing textiles and in making paint and printing ink. According to a bulletin issued by the United States Geological Survey, practically all ferrocyanide is now made from material obtained in purifying coal gas. The material is mixed with lime, the calcium ferrocyanide leached out, when it is converted into sodium ferrocyanide by treatment with sodium carbonate. Before the war a considerable quantity of this salt was imported from England and Germany, but the restrictions of imports during the war resulted in a greatly increased domestic production, owing to the decreased importation of ferrocyanide, as well as to the supplanting of potassium ferrocyanide by sodium ferrocyanide on account of the scarcity of potash. Eight manufacturers making the salt are reported for 1918, the quantity marketed in the same year amounting to 4,525 short tons, valued at $2,690,110.

Sodium Peroxide—

Only one concern is reported as making sodium peroxide in the United States, the process employed being that of burning metallic sodium in an excess of air or oxygen. It is used in chemical analysis especially in decomposing pyrite and chromite, and in bleaching, also for generating oxygen in hospitals, submarines, and mine-rescue apparatus, and in making hydrogen peroxide. When pressed into blocks with a little nickel sulphate, copper sulphate, or potassium permanganate, sodium peroxide may be used to generate oxygen merely through the action of water.

Value of Commercial Pepsin Preparations—

Gross examined thirteen samples of pepsin wine from various sources, all of which were found to be almost or entirely devoid of peptic activity. This inactivity may be due either to a weakening of the strength of the pepsin by the wine itself, or to a gradual loss of activity of the dissolved pepsin. The amount of loss is dependent on age and storage temperature. In an experiment with a fresh wine made by the author, part of which was kept in cold storage, the other at normal (room) temperature, the loss in the former case was from 30 units per cc. to 15 units in 30 days and 6 units in 2 months, and in the latter case to 4 units and zero respectively. Other pepsin preparations examined also showed in nearly all cases very little peptic activity.—(*Deutsch. Med. Wchschr.* through *J. Soc. Chem. Ind.*)

Collection of Curacao Aloes—

Curacao aloes is collected chiefly on the island of Aruba, although large areas on Curacao and Bonaire are also cultivated. The cultivation is easy and inexpensive, the plant requiring a dry and chalky soil. It is propagated by cuttings taken from old plants. These are set about 0.5m. apart in rows that are rather more than that from one another. The plant produces a short stem and a rosette of leaves. After the rains it sends up a flowering stem about 0.75Dm. long, which divides into two or more branches. It yields a normal amount of aloes for about twelve years; after that it must be dug up and the ground manured and replanted. In the dry season the leaves are cut off and placed in narrow V-shaped troughs, made up of two planks several meters long, and set on a slant so that the exuded juice drains into empty petroleum cans. The contents of these are transferred to wooden vessels holding about eight gallons, which are conveyed to the boilers. These are large, open copper pots under a rough shelter. In them the aloe juice is boiled down to a suitable consistence, which takes about twelve hours. The concentrated juice is then run into empty petroleum boxes lined with paper or into gourds in which it solidifies.—(*Pharm. Weekblad* through *Pharm. J.*)

Preservation of Orange and Lemon Juice—

Experiments on the drying and preservation of orange, lime and apple juices tend to show that a residue can be obtained by evaporation which still possesses a considerable fraction of the anti-scorbutic potency of the original juice. In these experiments the lime juice and apple juice were evaporated on a commercial scale. The orange juice was completely dried in the laboratory, and after preservation for ten years in the dry condition was still highly potent. In regard to lemon juice, it was shown that by the addition of an excess of calcium carbonate, and afterwards of absolute alcohol, the citric and other organic acids can be removed, and a neutral solution from which the alcohol is removed *in vacuo*, containing little solids, but the entire anti-scorbutic content of the lemon juice can be thus obtained. This solution can be concentrated, and even brought down to dryness, under certain conditions without losing its potency. Such concentrated anti-scorbutic solutions have been tested on monkeys suffering with acute scurvy, and on scorbutic infants, with success.—(*Lancet* through *Pharm. Journ.*)

Tragacanth from Mesopotamia—

A report on some of the commercial products of Mesopotamia, furnished by the Revenue Commissioner of that territory, emphasizes the value of the tragacanths, which are produced by tapping certain small shrubs indigenous to that region. The most important collecting center for Baghdad is Suleimanaya, the capital of a district by the same name, situated about 180 miles northeast of Baghdad. In tapping the bushes, the Kurds first burn all the leaves off the plant, then expose the roots and leave for a week or so; they then return and collect the gum which exudes from the roots. The first tapping produces white gum of the best quality, while second and subsequent tappings yield gums of yellow colors and of inferior quality. Excessive tappings weaken and may kill the bushes. A second kind of gum is produced from a large tree, known as "Buttom" by the Arabs, and "Gkraswan" by the Kurds. Besides this gum, called "elch" in Arabic, the tree produces edible fruits, sold for foods and for extraction of oil in all local markets of any size in Northern Mesopotamia. The tree is tapped by making long incisions in the trunk, the gum exuding from the wound being collected in a receptacle placed underneath. Most of the gum tragacanth is exported to England and other foreign countries where it is used for sizing cloth. The bulk of the "elch" gum is sent by caravan to Aleppo, where it is used for sizing cloth.—(*Madras Com. & Ind.*)

Note on U.S.P. Ointment of Tar—

Bertha Mueller, in discussing the preparation of ointment of tar, states that an ointment to contain 50 per cent of tar and to be of the proper consistency requires a base containing a high per cent of wax. Such a base congeals very rapidly and gets very hard; the author recommends the following method as yielding a perfectly uniform ointment of definite strength: Put the tar into a mortar that has been warmed by letting water of about 130° F. stand in it for a little while; stir the tar in order that all parts of it may come in contact with the warm mortar, thus rendering the tar sufficiently warm to prevent a too rapid congealing of the ointment base when brought in contact with it. Melt the wax, then add the lard, and when the whole is melted and at a temperature of 130° F., add it gradually and with constant stirring to the tar. Stir until the mass congeals and a uniformly smooth ointment results.—(*Am. Dr.*)

Adhesive for Surgical Dressings—

Cunningham recommends a 5 to 10 per cent solution of celluloid in acetone as an excellent adhesive for attaching dressings to the parts to which traction is desired to be applied in the treatment of fractures. Celluloid scrap is dissolved in the requisite amount of the solvent in a clean, dry, wide-mouthed bottle by agitation, a clear, viscid solution resulting in from 24 to 48 hours. The adhesive is applied with a stiff dry brush to the skin, which should be perfectly dry, in quantity sufficient to soak through the strip on which traction is to be applied. A thin coating should then be applied externally to remove all air bubbles. Canton flannel is recommended as the best material for the strips, but a double layer of gauze or muslin may be used. If desired, the adhesive can be dispensed in collapsible tubes.—(*J. Am. Med. Assoc.*)

Quantitative Estimation of Menthol in Alcoholic Solution—

Dr. Joseph L. Mayer finds the following a satisfactory method for the quantitative determination of menthol in alcoholic solution: Into an accurately weighed Petri dish (a large watch glass will serve equally as well) measure 5 cc. of the sample, then place in a desiccator over sulphuric acid and allow to remain over one night, after which weigh. The increase in weight is due to the menthol, the purity of which can be easily proved by making a melting point determination and other physical and chemical tests which may be needed. A trial solution made to contain 14.6950 Gm. of menthol with alcohol sufficient to make 50 cc. when analyzed by the above method showed the presence of 14.460 Gm. per 50 cc., a shortage of 1.59 per cent, which is practically negligible in work of this kind. The author recommends the method as accurate, simple, easily applied, and particularly suitable for pharmacists.—(*Proceedings New York Ph.A.*)

Medicinal Plants in Bahia

Consul Edward Higgins, Bahia, Brazil reports to the Department of Commerce that the State of Bahia offers to the medical world an abundant and varied supply of plants, roots, barks, and gums, including many of recognized value and some regular articles of export, such as ipecacuanha root, araroba powder, jaborandi leaves, and Jatoba gum. Most of the plants exist in practically inexhaustible quantities. A list of the most important medicinal plants found at convenient distances from the city of Bahia, with the Consul's comments thereon, includes the following:

Angelica (*Gentiana rubra*).—Aromatic, antiseptic, and antispasmodic; a powerful remedy against intermittent fevers.

Arco leaves.—A substitute for the coca leaves of Peru; a stimulating and powerful tonic, yielding cocaine.

Araroba or Goa powder.—This is a powder taken from the heart wood of a tree known locally as "amargoso do matto" (Vouacapoua araroba), which contains a substance known as chrysarobin, used in the treatment of skin diseases.

Barbatimao bark.—The inner bark contains phosphate of lime, tannin, and an alkaloid similar to quinine; it is a sedative, and reduced to powder makes an excellent dentifrice.

Cajueiro (*Anacardium occidentale*).—The bark is astringent and is an efficacious remedy against diabetes.

Caroba leaves.—Antisyphilitic and antibubonic; well known in Brazil as a powerful blood cleanser, used externally and internally. It is a vegetable mercury and is said to be superior to sarsaparilla and other blood purifiers.

Cambará leaves.—A strong sedative and expectorant, for bronchitis, coughs, and pulmonary ailments.

Cameleao da costa.—Remedy for stomach trouble.

Cestrum leaves.—A strong narcotic, said to be poisonous, also used in baths against hemorrhoids, a powerful insecticide. The damp leaves are applied to wounds, first inflaming them, but afterwards cleaning and healing them.

Congonha.—A stimulant, diuretic as a tea.

Gervao.—One of the best disobstruents known, aids digestion and eases laborious births.

Imbauba.—Remedy against coughs, bronchitis, and asthma.

Imburana.—Inner bark contains coumarin; it is aromatic, an expectorant and a stimulant.

Ipecacuanha.—This is a shrub growing in the shade of the forest, the root of which is dried and powdered for use in medicine. It is valued as an expectorant, diaphoretic, and emetic. It is not cultivated, but care is taken in digging up the plants to leave sufficient roots in the soil for another crop.

Jaborandi leaves.—Aphrodisiac, sudorific, and stimulating. From these leaves is extracted pilocarpine, which is used in tonic preparations for the hair.

Jurubeba (*Solanum paniculatum*).—Remedy for congestion and maladies of the liver.

Loco leaf.—A vegetable caustic.

Carnauba wax.—A tasteless, aseptic wax extracted from the leaf of a palm tree known locally as the "carnaubéira" and employed in the preparation of ointments, pomades, and pills.

Mamona.—This is Portuguese for the castor plant, which was introduced into Brazil from India and China by the earlier colonists, but spread so quickly as to have the appearance to-day of a forest plant. Both the seed and oil are exported from Bahia in increasing quantities each year.

Manaca root.—Antisyphilitic vegetable mercury.

Jatobá gum.—Jatobá is a name applied to several species of trees found in the valley of the River Sao Francisco, which traverses the northern and western parts of the State of Bahia. The gum which is extracted from this tree is employed in the composition of sirups for pulmonary affections. It is variously known locally as jatobá, jatahy, and jutahy.

Jatobá bark.—The bark of the above-mentioned tree is also of value in the preparation of medicines and is employed as an astringent and carminative.

Mango tree (*Mangifera indica*).—The leaves are antiasthmatic.

Mentrasto.—A plant, stimulating against colics and used in fevers, also in baths to cure weakness.

Milhomens (*Aristolochia cymbifers*).—Used against paralysis, dropsy, and stomach trouble.

Mulungu (*Erythrina mulungu*).—The inner bark is a powerful sedative, narcotic, and antispasmodic, and is a substitute for belladonna; it also exercises a special action on the liver; in doses of 5 centigrams it will induce sleep.

Pareira brava root (*Cissampellos pareira*).—A powerful tonic, remedy for stomach trouble, bladder trouble, beriberi, brain fever, and meningitis.

Pao ferro.—A bark used against diabetes; the seeds furnish a strong tonic and diuretic.

Purga de campo.—Remedy for fevers, pleurisy, tumors, and cancerous wounds.

Pindohiba.—Remedy for stomach trouble and for intestinal flatulence.

Quina-quina.—A bark used against fevers.

Quitoco.—Carminative, antihysteric, and digestive; used in baths for muscular pains in the body.

Samambaia.—Used for rheumatism.

Velame de campo.—Blood cleanser, antisyphilitic and antirheumatic, for skin diseases and swelling of the glands.

CADMIUM TUNGSTATE IN RADIOGRAPHY

The stock of platinum in France being about exhausted and Russia no longer exporting this metal, its value has mounted to a very high degree, with the result that screens of barium platino-cyanide have strongly increased in price. To remedy this condition, investigators have sought in many quarters to replace the platinum compound by less valuable metallic salts. Recently P. Roubertie and A. Nemiroski announced to the Academy of Sciences that they had succeeded after long researches in preparing and manufacturing a fluorescent screen with cadmium tungstate, using no platinum.

These screens are free from the permanent fluorescence which characterizes the screens made of the various sulphides that have been proposed, and are insensible to physical and atmospheric conditions, as well as to the action of the X-ray which causes a deterioration of screens having a platino-cyanide base. The luminiscence of these screens under the action of the X-ray is white, the radioscopic body is detached in black on the screen, the image resembling the radiographic positive proofs made with bromide. This quality has a twofold advantage; it makes radioscopic examination more agreeable and precise; one knows, in fact, that with a platino-cyanide screen the radioscope is detached in well defined images upon plaques of brilliant yellowish green; to fix this, the eyes of the radiographer tire rapidly. Further, it permits one to photograph the images found on these new screens, and doubtless will permit them to be reproduced by the cinematographic camera, an advantage allowed by no platino-cyanide screen. To these purely technical qualities of these radiographic screens should be added the further advantage of being decidedly lower in price than those made with platinum, the products entering into their composition not being, as with platinum, rare and costly.—(*L'Union Pharm.*)

CAMPHOR ALLOTMENT BY JAPAN TO U. S. 379,635 LBS. FOR 3 MONTHS

Price Is Fixed at 557 Shillings Per Hundredweight—Effect of Heavy Demand in Hongkong for Camphor From South China—Prices in China Compared With Those in Japan and United States

Consul Hitchcock cables from Taihoku, Taiwan, that the amount of camphor allotted to the United States for the first three months of the year 1920 is 379,635 pounds, costing 557 shillings per hundredweight.

From Hongkong, Consul General Anderson sends advices to the effect that the shortage in the supplies of camphor, due to the much reduced output of Formosa (Taiwan) and the greatly increased demand during 1919 has resulted in prices which have been moving all the camphor to be obtained in South China, and there has been a boom in the trade in Hongkong. Exports of camphor from Hongkong to the United States in the earlier months of 1919 were too small to be separately noted in the trade returns. The total exports from the colony for the first quarter of the year amounted to only $54,810, at normal sterling exchange; the value in the second quarter rose to $233,954. In the first quarter nearly the whole of the exports went to India, the Straits Settlements taking about 10 per cent of the total. In the second quarter India continued to take some of the output, but the United States commenced to draw upon the South China stocks, taking exports to the value of $181,550. Since then the export of the gum to the United States has steadily increased, the value of such exports for July reaching $176,900, those for August being valued at $208,641, those for September at $360,641 and those for October at $606,940. Thus the total exports of gum camphor to the United States during the first 10 months of the year amounted to $1,534,672. The comparatively favorable price of the Hongkong gum accounts in part for the strong demand.

The camphor shipped from Hongkong is in its crude or unrefined state. It is classified locally as Fukien or Kwangsi, according to the Provinces from which ti comes. It has been invoiced lately at $2.15 c. i. f. San Francisco and has been selling in Hongkong at from $252 to $240 local currency per picul (133⅓ pounds) for the Fukien grade (at varying exchange, equal to about $1.70 gold per pound). In October, under the pressure of heavy demand, prices went up to $350 for the Fukien and $340 (local currency) for the Kwangsi grades, or, at exchange then current, $306 and $315, gold—per picul.

These prices are to be compared with $3.75, gold, per pound for refined camphor blocks in Japan. The Japan prices represent an increase of about $1, gold, per pound over the prices obtaining at the corresponding period of 1918 and much more of an increase compared with normal prices. On the other hand, present local prices in Hongkong are not nearly so much above normal prices as the gold prices in the United States and Japan. The high value of silver exchange makes the difference and illustrates how difficult it is to export Chinese produce of any sort, save at very high prices in gold to equal ordinary prices in Hongkong and Chinese currency.

Toward the close of 1919 the prices of camphor in Hongkong under the pressure of unlimited demand advanced to a point where a large business could be done, limited, in fact, only by what the Chinese producers could secure in the time during which such prices should continue to obtain.

DEFER SUPPORT OF NEW BILL

The Executive Committee of the Baltimore Drug Exchange, at a recent meeting, decided to take no action in support of the bill which has received the endorsement of the Maryland Pharmaceutical Association, the Maryland State Board of Pharmacy and the Baltimore Retail Druggists' Association, and which provides for a separation of the portion of the State Pure Food and Drugs law relating to drugs and for placing the enforcement and general administration of all statutes relating to pharmacy, such as the Narcotic law, the Zihlman law and the act relating to the qualifications of persons who desire to engage in the practice of pharmacy, under a commission composed of four practical pharmacists and three other members, who have been engaged in some branch of the drug business not less than ten years.

This bill was brought to the attention of the Exchange at the latter's annual meeting in December by R. E. Lee Williamson, president of the Retailers' Association, with the request that it be considered, the sponsors of the measure promising to accept suggestions for any changes that might be proposed so as to make the bill acceptable to the members of the Exchange. The opinion of the Executive Committee appeared to be that the present method of applying the various laws on the subject was entirely satisfactory.

Those who favor the measure are disposed to view this outcome of the overture made to the Exchange with considerable feeling, and the disposition among the sponsors of the bill now is to have it introduced in the General Assembly in its present shape and to make a determined fight for it. It is conceded that with the Exchange in opposition the friends of the bill will be handicapped in their course, but they are inclined to call for a show-down.

If this is done, the relations between the wholesale and manufacturing druggists on the one hand and the retailers and their following on the other are likely to undergo a considerable strain.

MEETING OF SAVANNAH DRUGGISTS

All the officers of the Savannah Retail Druggists' Association were re-elected for the ensuing year at the annual meeting at Bannon Lodge at Thunderbolt recently. The meeting was followed by a fish dinner.

The outstanding feature of the gathering was an address by Mr. Merritt, former United States narcotic inspector, concerning the smuggling of various narcotics into this country from Japan through Cuba and Mexico. He spoke of how the drug addicts in America would eventually be eliminated by the co-operation of the druggists and the Federal authorities in stamping out the traffic.

The officers re-elected are: President, W. T. Knight; vice-president, Tazwell L. Anderson; treasurer, H. H. Livingston; secretary, R. Angus Anderson.

FILLED PRESCRIPTION FOR LEMONS

What is believed to be the first prescription ever written for lemons was issued by Dr. I. C. Hicks, at Huntington, W. Va. A woman patient needed lemons, but because of Mayor C. W. Campbell's insistence on enforcing the Sunday closing ordinance not a fruit store in the city was open. Relatives of the woman secured the physician's prescription for six lemons, and the prescription was filled by Wild and Boots, druggists. Pharmacists who sold anything except medicines were fined.

Professional & Trade Associations

INDUSTRY TO MEET COMPETITION

New York Branch of A.Ph.A. Elects Officers, Discusses Future of Dye and Chemical Industry in the United States and Requests Congress to Act

The January meeting of the New York branch of the American Pharmaceutical Association, held at the College of Pharmacy, inaugurated a new departure in the proceedings of that organization, the programme consisting of the presentation of papers and a discussion relating to the dye and chemical industries of the United States. Another feature of the meeting was the annual election of officers which followed the report of the Nominating Committee, the following nominees being confirmed by the single ballot of the chairman:

President, Major Frank L. McCartney; vice-president, Dr. William C. Anderson; secretary, Dr. Hugo Schaefer; treasurer, Dr. Gustave Horstmann. Committee chairmen—Progress of Pharmacy, Dr. George C. Diekman; Fraternal Relations, J. Leon Lascoff; Education and Legislation, Clyde L. Eddy; Membership, Robert Gerstner; Audit, Dr. Jacob Diner; Member of the Council, Dr. Jeannot Hostmann.

Major McCartney was immediately inducted into his new office, and, after thanking the members for the honor they had conferred upon him, started the evening's programme by an address on the subject, "Will the American Dye and Chemical Industry Be Able to Compete Against Foreign Manufacturers During Normal Times?" dividing his subject into three parts—heavy chemicals, dyes and pharmaceuticals.

"Under heavy chemicals," he said, "we have heavy acids, which are not of particular interest to the importer, as the American industry has been able to take care of this country's requirements for these chemicals, and foreign competition is hardly possible at the present time. We then have a long list of heavy chemicals, such as bichromates and permanganates, large quantities of which were formerly imported, but today the United States is supplying very large quantities.

"The manufacturers of dyes are really in a peculiar position, inasmuch as we have here a new-born industry. The manufacture of a great many dye intermediates requires high skill, years of development to perfect processes on a manufacturing scale, and, in addition, years of development from a commercial standpoint in order to permit the development and sale of the dyes produced from those intermediates in such quantities as will warrant the really large scale manufacture of intermediates.

"The future of our dye industry depends, evidently to a great extent, on proper action by Congress, and it is equally essential that such action be taken promptly so as to enable manufacturers to lay out their plans in accordance with whatever action may be taken. In no field was Germany so far in advance as it was in the dye industry, and the special position occupied by this industry would justify prompt action by Congress to protect our infant industry.

"For the purpose of discussion, pharmaceuticals may be divided into three classes: (1) Pharmaceuticals derived from coal-tar products. (2) Other pharmaceuticals, inorganic chemicals, organic products not derived from coal tar, and products of vegetable origin. (3) Pharmaceutical preparations.

"The manufacture of pharmaceuticals derived from coal tar has attained considerable importance in this country, inasmuch as not only are the requirements of the United States covered by our home manufacture, but considerable quantities have been exported within the last two years. These products being derived from coal tar, that means coal-tar intermediates, are necessarily very closely allied with the dye industry. In many cases the same intermediates are used, and it can be truly stated that the manufacture of these pharmaceuticals can only be benefited by the establishment of a large scale manufacture of intermediates, and that means that the manufacture of these pharmaceutical products is, to some extent, dependent on the dye industry.

D. W. Jayne said the dye question was now a commercial one, as the United States has all the raw materials and the brains to make use of them. The production of coal-tar products was now the function of the steel industry, by means of its coke ovens. This country leads the world in output of coal-tar products—in volume, and probably also in minimum cost. In production of acids, particularly sulphuric and nitric, and salt, sulphur and alkalis the United States was independent, and also in the quality of brains employed in the industries.

"We need protection," continued Mr. Jayne. "There must be a proper system adopted for a proper length of time. Intermediates are basic products for the dyestuff industry and the pharmaceutical industry, but we must find a market for our products in both industries. Congress is evidently favorable to protection for the dye industry, but a method that is fair to the consumer as well as the producer must be worked out, and this is a difficult problem. I am confident that this country can successfully maintain a dyestuffs and a pharmaceutical industry."

Dr. J. Merritt Matthews told of the many problems that confront the dye manufacturer, the sudden changes in the demand for colors from season to season. American manufacturers were supplying the bulk of the colors used in this country. The requirements of the various industries might be estimated, he said, as about 70 per cent for black, 20 per cent for blue, and the remainder for the more brilliant hues. There are a few gaps in the list of dyes produced in the United States, he said, especially for vat dyes used on cotton to ensure fastness that the colors may not be destroyed by the acids and alkalis used in laundering.

Frank C. Starr, sales manager for Sharp and Dohme, said:

"There is no fear of especially violent competition from abroad on account of the bad economic situation and the cheapness of money. Our foreign competitors are beaten before they start. The only possible interference from abroad will be in specialties and not in general pharmaceuticals. They will have difficulties to meet in shipping and distribution. Especially will the Central Powers meet with difficulties which can only be overcome by long continued propaganda.

"Advantages which the foreign manufacturers will have are in the cheapness of labor and materials, especially alcohol, on which this country places much higher taxes than other countries. In this respect we are amply protected by tariffs on alcoholic medicinal preparations. The duties are: On less than 20 per cent alcohol, 10c per lb. and 20 per cent ad valorem; on less than 50 per cent alcohol, 20c per lb. and 20 per cent ad valorem; above 50 per cent alcohol, 40c per lb. and 20 per cent ad valorem.

"The field of keenest competition will be South America, and our manufacturers will be under a disadvantage there, because from the tax of $4.30 per gallon of 95 per cent spirits the drawback allowed for export is only $2.20, which is decidedly not sufficient."

Charles L. Huisking had prepared a paper in which he said in part:

"Considerable stress has been laid on the need for greater protection for our manufacturers of dyes, intermediates and chemicals, and while, in some specific instances there is, no doubt, absolute need for such protection, in a general way I am frank to say that, in my opinion, our manufacturers are today on a solid and stable foundation, and in the position where they can hold their own against foreign competition, and I say this with full credit to them for what they have achieved, for what they have done is truly remarkable and a credit to the initiative and ingenuity of the American chemical trade at large. On the other hand, America today holds a position in the world's trade, in finance, in manufacture and in merchandising that portends for it a bright future, but we cannot afford to hold ourselves aloof from the rest of the world and shut ourselves in by building around us a protective wall in the shape of high tariff, and now, more than ever, it requires careful consideration of the situation and questions that confront us almost daily.

"The time is coming, and perhaps not in the far distant future, when foreign competition, particularly for the export trade, will become more severe, and we should welcome it, but if our merchants are to continue in the position they have gained in the world's trade, we must be freed of the restrictions and interferences now imposed upon us. We are today, for instance, working under a handicap due to the fact that while we are, perhaps, to all intent and purposes at peace with Germany, we are not permitted to trade freely in goods of German manufacture, and it places us at a disadvantage over our competitors in England, France, etc.; in fact, in all such countries that have now definitely concluded peace with Germany, and we necessarily feel the effect thereof in our international business."

At the close of the discussion which followed the presentation of the addresses, Dr. H. V. Arny, professor of chemistry in the New York College of Pharmacy, introduced resolutions requesting that Congress do everything possible to further the cause of the dyestuffs and chemical industry in this country. These were referred to the parent organization.

PHILADELPHIA BRANCH

Six new members were proposed and elected at the January meeting of the Philadelphia branch of the A.Ph.A. After the presentation of communications from Mrs. F. M. Apple and from the Collector of Internal Revenue, the scientific programme was taken up, Professor Julius W. Sturmer giving an interesting talk on "1820—A Bit of History," which detailed happenings in and around Philadelphia about one hundred years ago. Notably among the incidents he mentioned were the founding of the Philadelphia College of Pharmacy and the first edition of the United States Pharmacopoeia.

Prof. Louis Gershenfeld followed with a lecture on "Quantitative Urinalysis," discussing particularly the estimation of acidity, albumin, sugars, urea and uric acid. Interesting discussions followed both addresses. President Ivor Griffith presided.

NEW OFFICERS OF DRUG TRADE SECTION

The Drug Trade Section of the New York Board of Trade and Transportation has elected the following officers for 1920: Chairman, Franklin B. Yates, of Yates Drug & Chemical Co.; vice-chairman, S. B. Penick, of S. B. Penick & Co.; treasurer, W. A. Hamann, of Roessler & Hasslacher Chemical Co.; secretary, W. F. McConnell; representative as director of the New York Board of Trade and Transportation, Turner F. Currens, of Norwich Pharmacal Co. The Executive Committee is made up of the following; Frank E. Starr, of Sharp & Dohme; Chas. C. Bruen, of C. S. Littell & Co.; Edward Plaut, of Lehn & Fink; Joseph Mathias, of J. B. Horner, Inc.; Jacob Weil, of Britt, Loeffler & Weil.

The Executive Committee reported that the active support of the Postmaster-General is expected in favor of the Steenerson bill now before Congress to permit the mailing of medicines containing poisonous ingredients.

The report of the Executive Committee contained a review of the Porto Rican situation. An order promulgated by the Porto Rican Government in December prohibited the sale of pharmaceutical or chemical preparations containing more than 2½ per cent of alcohol by volume after Jan. 1, unless such sale was approved and licensed by the Board of Health. The suddenness of the order was such as to prevent manufacturers outside of Porto Rico from complying with its details. A stay of thirty days was obtained by the New York Merchants' Association through the Bureau of Insular Affairs extending the time for filing the necessary papers until Feb. 1.

The membership Committee reported the following new members: Arthur Stallman & Co., P. E. Anderson & Co., Dye Products & Chemical Co., Chas. L. Huisking, Inc., Kalbfleisch Corporation, Monsanto Chemical Works, McLaughlin-Gormley-King Co., Pacific Coast Borax Co., Pharma-Chemical Corp., Henry B. Platt Co., E. R. Squibb & Sons, G. S. Stoddard & Co., Arnhold, Karberg & Co., Bakst Bros., and Sterling Chemical Works. The Drug Section now has ninety-four members.

NEW CHEMICAL AND DRUG CLUB

The formation of the Executive Committee of a new chemical and drug club has been completed. Members of the committee are: A. A. Wasserscheidt, of Mallinckrodt Chemical Works; F. J. McDonough, of McKesson & Robbins; Chas. L. Huisking; P. C. Magnus, of Magnus, Maybee & Renard; Carl Vietor, of Rockhill & Vietor; Theo. Rautenkrantz; J. Cody, of Hoffman-La Roche; J. W. Lyon. Geo. P. Huisking, chairman of the club pro tem, expects to call soon a meeting of those interested in becoming charter members of the new club.

PAREGORIC RESOLUTION ADOPTED

At a general meeting of the Philadelphia Association of Retail Druggists held December 5, the following resolution was unanimously adopted:

"Whereas paregoric, being a habit-forming drug, can be and is used by drug addicts, and

"Whereas it is very difficult to determine whether or not paregoric, when sold, will be put to its proper use, and

"Whereas the members of the Philadelphia Association of Retail Druggists, who are interested in public welfare, are not willing to supply those addicted to the drug habit, be it therefore resolved that the members of the Philadelphia Association of Retail Druggists shall not sell nor supply paregoric excepting upon a physician's prescription."

MAKING TARTARIC ACID FROM BENZOL

New Process Discovered by John M. Weiss and C. R. Downs—Maleic Acid Can Be Used as Basis of New Dyes, Medicinals and Perfumes—Method Described at American Chemical Society Meeting

John M. Weiss, manager of the Hudson Heights plant of The Barrett Co., and C. R. Downs, chief chemist, have discovered a process for making tartaric acid, citric acid and lactic acid from maleic acid obtained from benzol. Three American patents have been issued to them, and arrangements are being made to manufacture the products on a large scale.

The details of the process were explained in a joint paper read before the New York Section of the American Chemical Society at 50 East Forty-first street and written by the inventors and patentees of the process.

The basis of the process is a method of building up various substances from maleic acid obtained from benzol, one of the derivatives of dark and viscid coal tar. Maleic acid has been separated from the juices of certain plants and fruits, but at so high a cost that it could not be put on the market and was considered merely as a laboratory curiosity. By the Weiss-Downs process, benzol is mixed with air and the vapor is passed over a catalyzer, a material which alters the speed of chemical reactions without being in itself affected. On account of their mysterious power to join other substances in chemical wedlock, catalyzers are known as "chemical parsons."

With maleic acid as a base, it is possible to prepare other valuable acids. Of these, the most welcome to the housekeeper and the trade is tartaric acid, which hitherto has been made from the cream of tartar, a solid found in the bottom of wine casks and employed principally in the making of baking powder. The United States, before the prohibition wave engulfed the vineyards where wine grapes are raised, produced ten million pounds of cream of tartar a year and about a million pounds of tartaric acid. As the cream of tartar cannot be obtained except through fermentation of the wine, the grape juice industry is unable to supply the household want hitherto filled from the vats of the vintner. There was a large importation from Europe before the war, but it was checked by the military situation.

Citric acid and lactic acid can also be manufactured cheaply by the new method. Lactic was originally derived by fermenting milk, as its name implies, although there are now several processes for preparing it synthetically. Recently farmers have been giving lactic acid as a tonic and appetizer to pigs, for, although the porcine breed is supposed always to be hungry, it is found that its craving for food and powers of assimilation, and therefore its weight, could be greatly increased by such a prescription. This acid is consumed in large quantities in the dyeing of wool and is of much worth in various industries.

Succinic acid, which is useful in making many laboratory tests, can also be derived at a low figure by the newly devised method. As it is obtained by the distillation of amber ordinarily, this substance is costly.

Maleic acid synthesized from benzol, the inventors state, can also be employed as the basis of new dyes, medicinals and perfumes. They believe, in fact, that it will open up an entirely new field of synthetic organic chemistry. The process would render the United States independent of foreign supplies of several important raw materials.

Mr. Weiss, who read the paper, was graduated from the University of Pennsylvania in 1905 with the degree of Bachelor of Science. He is the author of many scientific monographs and has patented numerous processes connected with chemistry. Mr. Weiss is a member of the American Chemical Society; the Society of Chemical Industry of London; the American Society for Testing Materials; the Franklin Institute; the American Institute of Chemical Engineers; the Societe Chemie Industrielle of France, and a Fellow of the American Association for the Advancement of Science.

C. R. Downs received from Yale the degree of Ph.B. in 1909, and his Ph.D. degree was conferred at the same institution in 1912. He is also accredited with a large number of scientific papers and patents. Dr. Downs is a member of the American Chemical Society and the American Institute of Chemical Engineers.

DRUG PLANTS IN SOUTHERN CALIFORNIA

Drug manufacturers of the United States, in past years, have depended almost entirely upon European countries to supply them with the plant-producing drugs. Drug plant growing in this country has been practically negligible. Partly because of the war and other contributing causes, the most important of which is the adaptability of the Southern California soil and climate for the growing of almost very variety of drug plants, this condition is rapidly becoming reversed. The large drug manufacturers are now beginning to look to Southern California to supply them with these plants.

The calendula officinalis, a variety of the marigold, from which a very important drug extract is derived used for treatment of wounds and abrasions, was grown by several growers in the Gardena Valley during the war. Before the war this plant was imported from foreign countries. This plant, which is distinguished from the common variety of the marigold by its dark orange color bloom, grows so prolifically in the Gardena Valley that the blooms can be picked every day of the year, the blooms being the part of the plant having medicinal value. The drug derived from this plant has both antiseptic and germicide attributes, and is used both internally and externally.

S. O. Barnes, a drug plant grower of Gardena, has grown the chelidonia majus, which had heretofore been grown almost exclusively in certain small districts in France. It takes two years for the plant to reach maturity, and it prospers in Gardena throughout the year.

The passiflora incarnata, more commonly known as the "passion vine," is also thriving on Mr. Barnes' ranch.

The cactus grandiflora, often called the "night blooming cereus," a variety of the cactus plant, which grows in the region of the Gulf of Mexico, and is said to have distinct medicinal values, has also been successfully grown here.

Another of the drug plants used extensively in the manufacture of drugs and which has been found to grow prolifically in Southern California is the cannabis sativa, or American hemp.

Not only can practically all drug plants be grown successfully in Southern California, but many of the native California plants themselves have valuable medicinal properties. Among these plants are the yerba mañza or curative herb, the yerba buena or good herb the yerba santa or herb of health, the erigeron canadensis or flea bane, and the euphorbia polycarpa or snake weed. The medicinal value of these drugs was recognized by the Indians and early Mexicans of this country, who used them in the treatment of various ailments. The yerba mañza in particular was used by the Indians and Mexicans as a remedy for malarial troubles and colds.—(Los Angeles Times.)

MORE SUGAR EXPECTED SOON

Food Administrator Williams Says Large Quantities of Porto Rican Sugar Are on the Way—Howell and the Federal Company Quote Prices for February, March and April

According to Food Administrator Arthur Williams, the sugar supply will become plentiful in a short time. He said that large quantities of Porto Rican sugar are on the way here and are due to arrive very soon. This sugar will be sold to the retailer at fifteen cents a pound, and should cost the consumer seventeen cents, according to Mr. Williams.

It was stated by Mr. Williams that an investigation of alleged profiteering in Java sugar had indicated that such practices were not going on. He said that there had been no evidence of over-charging. This sugar costs the retailer approximately 19½ cents a pound, and should cost the consumer about 23 cents a pound. He said that the latter price could not be considered unfair.

While no refiners except Howell and the Federal have so far made prices on new crop granulated, it is believed that at least two others will be in a position to book orders early in January. Howell quotes 15.20c less 2 per cent, selling limited quantities and to regular customers only on allotment. The Federal offers for February, March and April delivery, subject to its final acceptance, fine granulated at 13¼c f. o. b. refinery at Yonkers, lighterage or other delivery charges, demurrage, etc., to be charged to the account of the buyer. The tentative contract also carries a clause absolving the seller from responsibility for results of strikes, accidents, fire, delays or other causes beyond his control. The "other causes" had in mind were probably those that would occur as a consequence of the assumption of complete control over sugar by the Equalization Board.

President Wilson is considering the McNary bill which would continue the control and distribution of sugar through the Equalization Board. Should the measure become law it is pointed out that the President may exercise the authority vested in him to direct the Board, or its successor, in the event of the resignation of the present members, to buy the balance of the 1919-20 Cuban crop, which, allowing for sales already made, is estimated at about 3,000,000 tons. If under the direction of Mr. Wilson the Equalization Board sees fit to cancel all toll basis purchases and take over the raw sugars bought against them, which the law would empower it to do, a vastly different face would be put on the entire situation. The prospect that more of these toll sugars may come on the American market in any event is heightened by the low rate of exchange, which makes the export price laid down on the other side, particularly in France, prohibitive.

While the Cuban crop has greatly increased in recent years, the beet sugar crop of the leading producing countries has fallen off, owing to war conditions.

Consul Harry Campbell, of Soerabaya, in a report says there is apparently a considerable lack of information among American manufacturers and exporters of the possibilities for trade in connection with the sugar industry in Java. While all America knows of the great Cuban sugar production and the wonderful growth of the cane sugar industry of the Hawaiian Islands, apparently little attention has been given to the fact that Java is the third largest sugar-producing country in the world, ranking next to Cuba and British India. As the latter consumes all that it produces, Java ranks next to Cuba in sugar exports, actual production being about half of the Cuban output and approximately three times the production of the Hawaiian Islands.

SPECIFICATIONS FOR REAGENTS

In the belief that a valuable service can be rendered both to the manufacturers and users of reagents and apparatus, through standardization, the American Chemical Society appointed a committee which is now organized and at present is collecting data regarding the quality of reagents on the market.

It seems that in general the experience of users agrees with that of the Bureau of Chemistry as reported by H. E. Buc in the *Journal of Industrial and Engineering Chemistry*. The chief complaints appear to be in regard to the lack of reliability of the analyses rather than unsatisfactory purity of the reagents themselves. It is also evident that in many instances impurities which have caused dissatisfaction could have been removed by exercising sufficient care in production.

Insufficient knowledge on the part of the producer, both as to requirements and acceptable methods for testing, has been one cause for any dissatisfaction relative to reagents. Some makers have signified a willingness to follow standard specifications and methods of testing, and the committee therefore proposes to begin work on the specifications for sulphuric, nitric, and hydrochloric acids and ammonia. This will be followed with specifications for other reagents.

It is requested that suggestions be sent to the secretary of the committee, W. D. Collins, Bureau of Chemistry, Washington, indicating the specifications which would be acceptable, the uses to which the reagents are put in any special case, and the methods which are satisfactory in determining the purity of the reagents and the presence and amount of objectionable impurities. In the near future cooperation in the standardization of laboratory apparatus will be sought.

JURY IN SACCHARIN SUIT DISAGREES

St. Louis, Jan. 6.—The test case brought by the Government against the Monsanto Chemical Works concerning the label used on saccharin which has been on trial here for several weeks ended in a disagreement of the jury. The Government officials attempted to prove that saccharin is harmful when used in food. The burden of proof was on the Government officials, who brought the suit under the Pure Food and Drugs Act.

The case has been pending since 1916. Immediately upon the disagreement of the jury the Monsanto Chemical Works requested the court to proceed at once with the re-trial of the case in order to settle the question as soon as possible, but the Government attorneys declined to try the case again until the next term of court.

"RAINBOW" SUGAR PRONOUNCED HARMLESS

Harmless dyes were used in coloring the samples of "rainbow" sugar so far examined by the Bureau of Chemistry, the Department of Agriculture announced recently.

The sugar, the statement said, was "harmless, sound and not inferior," and the practice of the refiners did not violate the law so long as no attempt at concealment was made. The colored product, which is used ordinarily only for confections, has been placed on the retail market as a result of the sugar shortage.

Dr. Ikeguchi, a Japanese pharmacologist, is on his way to the United States to investigate drug manufacturing conditions here. He is a director in the Naikoku Saiyaku Kabushiki Kaisha, a drug company of Japan.

Schools and Colleges

BUFFALO

Graduates always remember conditions at their alma mater as existing in their own day, but to show the increased avenues in which students of the present day are directing their surplus energies, the University of Buffalo recently sent out a bulletin showing student movements as they exist today. The bulletin contains a directory of the various student organizations, fraternities, athletic activities, etc.

The Senior Pharmacy Class has elected the following officers: President, Wm. H. Brossway; vice-president, Earl Booth; secretary, H. O. Madsen; treasurer, J. R. Bressler; marshal, E. L. Wesley; athletic representative, C. S. Myers; Bison representatives, T. P. Kerwick and T. M. Carr.

Officers of the Freshman Class: Chairman, Spencer Shaffer; vice-chairman, Mary Sapienza; secretary, Rose Fuzy; treasurer, Mearl Pritchard; marshal, Carl Lojacano; athletic representative, P. H. Martineau; Bison representative, Mary Sapienza.

Every regularly enrolled student of the University holding an athletic season ticket is a member of the University of Buffalo Athletic Association. This association controls athletics at the University, and its affairs are managed by an executive board consisting of three faculty members elected by the Student Activities Committee and two student representatives from each of the several departments of the University who are elected by the students they represent. The students representing the pharmacy department at the present time are C. S. Myers and C. H. Ackerson.

A recent compilation of statistics of the University show that since the college of pharmacy was organized in 1886, graduates, including those completing their courses in 1919, were awarded the following degrees: Ph.G., 717; Phar.B., 353; Phar.M., 29; Phar.D., 6; Ph.C., 7. Number of students registered in the college of pharmacy this season, 136.

ENGLISH HANBURY MEDALLIST HONORED

Prof. H. G. Greenish

Prof. Henry G. Greenish, dean of the British Pharmaceutical Society's School of Pharmacy, London, the recipient of the Hanbury Gold Medal in 1917, received further honors recently in Paris, when the "Docteur honoris causa" diploma was conferred upon him, he having been previously nominated by the Board of Professors of l'Ecole Superieure de Pharmacie de Paris as one of the five foreign men of science to be the recipient of that honor. Professor Greenish is well known to English-speaking pharmacists throughout the world, not only for his work as one of the two editors appointed by the General Medical Council to supervise the preparation of the last edition of the British Pharmacopoeia, but as a pharmacist, teacher and microscopist. His work on the "Microscopical Examination of Foods and Drugs" is extensively employed by students and officials engaged in the enforcement of food and drug laws. He comes of a pharmaceutical family, his father, the late Thomas Greenish, being for years prominently active in the profession.

DR. CHANDLER AWARDED PERKIN MEDAL

Dr. Chas. F. Chandler

Dr. Charles F. Chandler, professor emeritus of organic chemistry in the New York College of Pharmacy, technical adviser to the Chemical Foundation, past president of the Society of Chemical Industry, and member of many other scientific associations and related organizations, was awarded the Perkin gold medal by the Society of Chemical Industry at a meeting of the New York Section of the Society held on the evening of January 16. During a period of sixty years Dr. Chandler has devoted all of his energy to the advancement of American chemical industries, and the presentation was made to him as a recognition of his notable scientific achievements.

Chairman Chas. E. Sholes, of the New York Section, presided, and after some introductory remarks, gave way to Dr. M. C. Whitaker, who gave some interesting reminiscences relative to Dr. Chandler with whom he was associated as a teacher at Columbia University. Professor Marston T. Bogert, also of Columbia University, then presented the Perkin medal, reviewing the life of Dr. Chandler, and giving many biographical and other facts concerning the recipient's career. In accepting the medal Dr. Chandler referred to the earlier days of the chemical industry in America, and predicted that the future would give it a still more extended opportunity for development.

Although always a chemist, Dr. Chandler has been identified with pharmacy during most of the years of his professional career. Soon after his advent to New York City he was asked to assist in the development of the New York College of Pharmacy, becoming in 1866, professor of organic chemistry in that institution, a position he continued to fill until a few years ago when he retired as professor emeritus. That his interest in pharmacy continues is evidenced by the fact that he still serves as 1st vice-president of the college of pharmacy, a position he has held for many years. He was born at Lancaster, Mass., in 1836, and but few men of his years have more to their credit for the advancement of chemistry and pharmacy.

Dr. George W. Hoover, of Chicago, was re-elected chief referee on drugs by the Association of Official Agricultural Chemists recently in Washington.

PHILADELPHIA

Dr. Henry Leffmann gave an inspiring lecture on "The Spirit of Research" at a recent faculty meeting held at the Engineers' Club. Dr. Leffmann so thoroughly enjoyed his evening's experience that arrangements have been made at his request to have him meet with the faculty whenever he can be present.

At the December meeting of the faculty, the usual dinner was served, and addresses were made by George M. Beringer, chairman of the board of trustees, who was the guest of the evening; Prof. F. P. Stroup, who spoke **on** the "Hydrogen Ion Theory," and Instructor Hughes on the "History of Composition Powder." Dr. Leffmann joined in the discussion of the several papers.

C. Carroll Meyer, for many years treasurer of the Alumni Association of the college, and at one time a member of the board of trustees of the institution, died recently at his home in Philadelphia. His death will be mourned by a host of friends among the alumni who recognized his faithfulness and untiring efforts for the success of his alma mater. At a special meeting of the directors of the Alumni Association called for the purpose, appropriate resolutions were adopted.

Prof. C. H. LaWall recently visited Washington to offer testimony before the special House Committee relative to the consideration of the dyestuffs bill now before Congress.

Robert P. Fischelis, lecturer on Commercial Pharmacy at the college, recently returned from a trip to the Middle West, where he represented the newly-formed Naval and Military Service Men's Section of the A.Ph.A.

The medals which the college presented to its graduates who served in the World War have made a most favorable impression on the recipients. There are still some of the medals left, and graduates who saw service and who have not received the emblem should communicate with Professor Stroup.

A number of the sailor contingent who were trained at the college during the war emergency are now enrolled in the regular classes.

The Upsilon Sigma Phi (USP) fraternity recently held its annual dance at the Palace Dansant on Market street, a highly enjoyable affair.

That the mantle of the late Professor Remington fell on worthy shoulders is daily emphasized by the vociferous reception which Dean LaWall is always tendered after his lectures.

UNIVERSITY OF IOWA

N. L. Downs, ex-'00, who has been traveling salesman for the Sherwin-Williams Co. in Dakota for some time, has recently purchased the East Side Pharmacy at Sioux Falls, S. Dak.

J. F. Rabe, '14, who has been located at Marengo, Iowa, since his graduation, has purchased an interest in a drug store at Atlantic. He will be associated with Dr. A. J. Gibson.

Friends of Alcia Beman Brockway will be grieved to hear of the death of her husband, E. B. Brockway. While skating on Lake Steilacoom, near Tacoma, Wash., Mr. Brockway broke through the ice and was drowned. Mrs. Brockway was graduated in 1896 and was employed at Boerner's pharmacy for several years before her marriage to Mr. Brockway.

H. A. Grimm was married Dec. 29 to Miss Adele Nesler, daughter of Mr. and Mrs. F. A. Nesler, of Dubuque. Mr. Grimm was graduated in 1917 and during the next year was associated with his father in the drug business at Dubuque, also doing some work at Dubuque College. The following year, he returned to the University and received his Ph.C. degree in June, 1919. Since that time, Mr. Grimm has been associated with M. A. Chehak, Ph.C, '19, in a laboratory at Cedar Rapids.

At the present time there are eleven women registered in the college, this being the largest number ever in attendance at one time. From the very beginning of its history, women have taken work in the college, but occasionally there has been a class with none. However, as the years have gone on, the number has gradually increased, and for some time all classes have included women. It is perhaps noteworthy that the ratio of women graduates to women matriculants is about one and one-half times the ratio of men graduates to men matriculants.

H. M. Doden, '14, who was pharmacist at the University Hospital for five years, was visiting old friends in Iowa City recently. Mr. Doden is now in the employ of the Schlegel Drug Company at Davenport.

MARYLAND UNIVERSITY

Following the lead of the Philadelphia and New York Colleges of Pharmacy, the Department of Pharmacy, University of Maryland, has decided to apply to the State Legislature for an appropriation of $10,000, in order that the requirements imposed under the Educational Fund standardization may be met and application has already been made to the State Board which has this matter in charge. It is felt by the authorities of the university that without a certain measure of State aid it will be impossible for the department to meet the provision that certain members of the faculty shall devote all of their time to the classes of the department. Officials say that the tuition fees received from the students do not suffice to meet the additional expense which compliance with the requirement referred to would entail, and they point out that it would reflect seriously upon the city, if it became necessary to abandon the department or to go along with standards under those considered essential to the proper training of pharmacists. Failure to meet the highest demands, it is urged, would prevent Baltimore from making a bid for the better class of students of pharmacy, and would reflect on the reputation of the city for educational facilities equal to any found elsewhere, which has been one of the proudest boasts of the municipality in the past, when it has taken the initiative in raising the scholastic requirements for matriculation, rather than lag behind or follow some other city.

PHARMACOPOEIAL CONVENTION, MAY 11, 1920

Second Notice

In harmony with the requirements of the By-Laws, attention of interested parties is called to the meeting of the Tenth Decennial Pharmacopoeial Convention of the United States, to be held beginning at 10:00 a.m., May 11, 1920, at the Willard Hotel, Washington, D. C. All incorporated bodies and other institutions entitled to membership in the Convention are entitled to at once apply to Dr. Noble P. Barnes, Arlington Hotel, Washington, D. C., for the necessary blanks for membership in the Convention.

Prior to the meeting of the Convention, the Committee on Credentials will meet in Washington to consider all applications which are made. It is important, therefore, that all applications for membership should be in the hands of Dr. Barnes at least six weeks before the date of the meeting. It will be difficult to consider, properly, credentials which are delayed beyond that date and especially those which may be presented at the time of meeting.

Sincerely,
By H. W. Wiley, President, 9th Decennial
Convention of the United States

INDUSTRIAL USES OF WOOD ALCOHOL

Essential in Manufacture of Explosives, Poison Gas, Formaldehyde, Celluloid, Artificial Leather, Lacquers, Varnish and Enamel—Many Colors Dependent Upon it as a Base—Used in Making Pharmaceuticals

Capt. James P. McGovern, a Washington attorney, discusses the necessity for wood alcohol in the chemical industry, in a statement recently sent to leading papers. Wood alcohol and tax-free denatured alcohol, he asserts, formed the backbone of Germany's chemical supremacy. The necessity of wood alcohol as a war product was shown when the United States Government commandeered the supply in this country and controlled the output of plants making it. It is recognized as one of the "key" chemicals and the War Department found it essential in the manufacture of explosives, chemicals for poison-gas, aeroplane "dope," and various other phases of the industrial side of warfare. Without wood alcohol, chemical industry in the United States, particularly the manufacture of dyes, would be hopelessly handicapped. Capt. McGovern continues:

"Refined wood alcohol is one of the most widely used and valuable solvents known to the manufacturing world; in fact it is today regarded as one of the 'key' chemicals, absolutely necessary for essential commodities. Wood alcohol is indispensable in the manufacture of formaldehyde, dyes, and other products in which ethyl and denatured alcohols cannot be utilized and has also a large field in the production of celluloid, artificial leather, lacquers, varnishes, and enamels, where it is preferred to ethyl and denatured alcohols on account of its quicker cutting and drying qualities. About one half of the present output is consumed in the manufacture of formaldehyde, the use of which has enormously increased because of its recognized paramount efficiency as a germicide, insecticide, fungicide and general disinfectant. The U. S. Department of Agriculture lays stress on its importance and advocates its use in farming, gardening, fruit growing and other agricultural operations.

"In the dye industry methyl or wood alcohol is an essential base for a certain line of colors, while other chemicals, derived from the basic use of methyl or wood alcohol, are necessary in other dyestuffs. Furthermore the use of methyl or wood alcohol cannot be displaced in the manufacture of certain pharmaceuticals where methyl-esters are required, such as chloride, bromide, iodide, nitrate, toluene, sulphonate, picrate, sulphate, and occasionally ester-salts such as sodium methyl-sulphate. Methyl acetone, ketones, and allyl compounds are used in the preparation of paint and varnish removers, synthetic products, denaturants for ethyl alcohol specified by the U. S. Government, and as solvents for nitro-cellulose and difficultly soluble gums. Wood oils are used in the manufacture of creosote and wood preservatives and a considerable quantity for shingle stains.

"Denatured alcohol is ethyl alcohol (derived from grain, molasses or other sugar-base) to which, in the majority of formulae, a certain quantity of wood alcohol has been added, pursuant to law and under the supervision of the U. S. Internal Revenue Bureau, for the purpose of rendering the product tax-free and unfit for beverage purposes. The original Denatured Alcohol statute (Act of Congress, June 7, 1906) provides that any person who uses denatured alcohol 'for manufacturing any beverage . . . . or knowingly sells any beverage . . . . made in whole or in part from such alcohol . . . . shall on conviction of each offense be fined not more than five thousand dollars or be imprisoned not more than five years or both . . . .'

"The use of wood alcohol as a denaturant was prescribed by the Government because it is the only known chemical substance which will readily mix with ethyl alcohol in all proportions and cannot be removed except by complicated fractional distillation. The U. S. Government has prescribed four formulae for Completely Denatured alcohol (this being the only kind which can reach the general public) and these formulae are used principally in preparing alcohol as a fuel for heating, lighting, and power purposes, non-freezing agent for automobile-radiator solutions, carbon remover, primer, and window cleanser."

PROSPERITY IN THE PERFUME INDUSTRY

Perfumery manufacturers will be interested in the opinion of "La Revue de Grasse" regarding the future of the industry. The paper says: "The day is not near, supposing that it can come, when, be it owing to the decrease in consumption or to foreign competition, our producers will be compelled to tear up their plantations of jasmine and roses, or our manufacturers to close their plants. Our flower culture, our great industry has still many beautiful days ahead of it.

"It must not, however, be supposed that the advantageous position that we occupy in the world's industry from this two-fold point of view is absolutely impregnable. There is no lack of countries where the climate and the character of the soil are just as well adapted as our own to the cultivation of the flowers of perfumery. Spain, particularly, Italy and all the countries bordering on the Mediterranean, are no less favored than our own in this respect—at least, at certain points in their territory. We should, consequently, the more concern ourselves with the competition of which our products may be the object, inasmuch as these countries cannot escape the law of intensification of all national production which will be characteristic of the economic struggle after the war.

"The Italian government has now adopted, in this connection a measure that it is of interest to note because it will certainly have the effect of inspiring the growers of perfume plants, and the industry of extracting perfumes to renewed efforts. It is a decree that on the one hand exempts from the land tax the lands devoted to the culture of perfumery plants and on the other hand that frees from income tax, for a period of ten years, industrial installations destined for the extraction of essential oils and the manufacture of perfumes.

"After the destruction of French vineyards by the phylloxera, the French government, to encourage their rehabilitation, remitted the land tax, for four years, on newly planted acreage. The Italian government, as we have seen, is much more broad as regards the interest it attaches to the perfume culture and industry."

INDIA'S NEW INDIGO CROP

The first official forecast of India's 1919-20 indigo crop, which, Consul General James A. Smith, of Calcutta reports is based upon reports received from six Provinces which contain practically the whole area under indigo in British India, places the area sown at 208,100 acres, or 26 per cent below the estimate for the corresponding period of 1918-19. As compared with the final estimate of that year (300,700 acres) the present acreage shows a decrease of 31 per cent.

The total yield of dye is estimated at 27,300 hundredweight [hundredweight is equal to 112 pounds], as against 32,100 hundredweight, the first estimate for 1918-19. As compared with the final figure for that year (44,100 hundredweight), the present forecast shows a decrease of 38 per cent.

Pharmaceutical Literature

Pharmacists and college professors of various nationalities have, from time to time, called attention to the characteristics of the apothecary and the mysteries of his art as these have been portrayed by novelists and writers in the literature of different periods. Now, it would appear that pharmaceutical literature itself has an attraction for the reading public in general. At least such is the view expressed by Tristan Martin in an article under the title "La Litterature Pharmaceutique," in the December issue of "Farmacia," which we translate as follows:

"It is the unrivalled queen of the day. It is she who proclaims to all the benefits of our specialties. It is incontestably the most alive and suggestive literature of the day. Masters of the pen and of thought devote themselves to it. Many attractive brochures and pamphlets are due to noted academicians. Even the greatest scholars do not hesitate to lend it the prestige of their names.

"The 'preparation' of this literature is not as easy as one would believe. It requires profound knowledge of medicine, judgment in weighing each expression and in finding the word which creates the image. The most descriptive, yet algebraically exact, realism is necessary. It must be powerful in evoking thought. Illness and the suffering of the sick must be broadly depicted, to the end that the invalid may say: 'That is exactly the malady from which I am suffering.' Warmth, vehemence often is necessary, according to the person to whom the subject is presented. Tact, or delicacy, also, is indispensable. Accordingly as a the subject is intended for a woman or for a man, it will be necessary to employ certain shades of meaning, a special color or tone. To flatter a sense of taste or of self-respect—all these should be the prime requisites of a good presentation of the subject.

"Greek and Latin words are not to be overlooked. Nomenclature enters into the task. One needs the skill in paradox of an Oscar Wilde. In giving to pharmaceutical literature a scientific aspect, one is perhaps certain of interesting not only the 'common herd' but also the practitioner, the doctor himself. And when one has engaged the interest of the doctor in his specialty, success is not far distant.

"A doctor practicing at Lamalou-les-Bains said to me recently:

"'You cannot imagine the pleasure which I find in reading pharmaceutical literature. It is always instructive and of captivating interest. When I receive a brochure or a new publication I analyze it, dissect it. Often I seek to learn how I may rejuvenate the elements of the healing art which I possess. I assure you that a fine work efficiently written by a specialist confrere demands that I acquaint myself with it, even though I have no interest in its sale.'

"This doctor is right. A specialty approaches success only when it has the powerful aid of rhetoric *ad hoc*. Let our compounders of syrups, pastes and pills remember!"

Control of the Michigan Drug Co., Detroit, passed on Jan. 1 to new interests headed by John W. Smart, All common stock of the company, also known as Williams, Davis, Brooks & Hinchman Sons, has been sold to the new organization. The capitalization is $600,000. Other officers of the new concern are Max Kahn, attorney, who will serve as vice-president; Frank Moulthrop, formerly of Seattle,. secretary, and James S. Smart, treasurer. Those retiring are James E. Davis, president; Alanson S. Brooks, vice-president; Maurice O. Williams and the T. H. Hinchman estate.

Obituaries

WILLIAM J. BULLOCK

William J. Bullock, representative from the Eighth Bristol District, former State Senator and mayor of New Bedford, Mass., and for many years one of the leading druggists of the Bay State, was found dead in bed at his home on Jan. 16. He had attended a session of the Legislature on the day preceding his death and appeared to be in good health. He was born in Fall River in 1864, and when a young man started in the drug business in New Bedford. As a druggist he was not only successful in the conduct of his store, but he showed a marked capacity for organization and for larger interests. He became president of the Massachusetts Pharmaceutical Association and prominent in the work of the N.A.R.D.

William J. Bullock

In 1897 he was elected to the common council of New Bedford. The next year he was elected to the State House of Representatives, holding office for six years, where he attained reputation as an authority on the government of cities. In 1904 he was elected to the Massachusetts Senate, where he served until 1907, when he was elected mayor of his home town in one of the most exciting campaigns known in the history of the city. Last year he was again elected a representative He was a member of the constitutional convention. Besides the Massachusetts Pharmaceutical Association, Mr. Bullock belonged to the Elks, the Red Men and other organizations.

HENRY W. MEHL

Henry W. Mehl, of the Mehl-Schott Drug Co., Leavenworth, Kan., one of the most prominent druggists of the State, died in that city on Dec. 17, aged fifty-eight. He was born in Leavenworth, where he attended the public and high school. He then entered the employ of Theodore Egersdorff in the drug business, becoming four years later a student in the Philadelphia College of Pharmacy, where, as one of the ten honor students, he was graduated in 1882, receiving a special certificate in chemistry. He returned to Leavenworth as manager of a manufacturing laboratory, but soon went into the retail drug business on his own account. After a year or so he formed a co-partnership with W. C. Schott, and together they purchased the largest store at that time in the city, in the conduct of which Mr. Mehl was identified at the time of his death. He was long active in the work of the Kansas Pharmaceutical Association, and had served it both as treasurer and president. He also served some years as a member of the Kansas Board of Pharmacy.

Educational Department

Devoted to Information, Criticisms and Suggestions on Pharmaceutical Topics of Special Interest to Era Course and Other Students.

Conducted by C. VERNE NICHOLS, Ph.C., B.A., M.S., Director of the Era Course in Pharmacy.

FOR STUDENTS BEHIND IN THEIR WORK

Notices have been sent to a number of students to whom only a few months remain before their term of scholarship will expire. Eighteen months after the date of matriculation is allowed in which to complete the Era Course recitation work and final examination, a period usually amply sufficient for students who are at all regular in sending in their recitations. For the purpose of reaching students who have not received notices, we take this means of calling their attention to the approaching expiration of their scholarship periods, and to the necessity for greater application and speed. Many students complete all requirements within five to eight months after matriculation, but in such instances the student usually has more time to devote to his studies than has the average student.

Now that the holiday rush is over, there should be a great deal of time for study. The work in the "front" is generally not so heavy at this particular time of the year, as many soda fountains are not in use during the cold weather. There is no doubt but what Era Course students can make more progress during the season we are now in than at any other time of the year if they will utilize their spare time. Send in your recitations as soon as you have completed them. They will be promptly examined, corrected and returned, and within a short time you will find that you have completed all requirements, for a diploma of the Course. But that is of minor importance as compared with the fact that you will have had the benefit of a systematic course of study in pharmacy and will thus be prepared to write the coming Board of Pharmacy examination.

WHY PYROGALLIC ACID IS NOT AN ACID

One of the questions on Lecture 8 Part 2 is stated as follows: "Why is pyrogallic acid not a true acid?" The answer ofttimes given by the student is, that it is not a true acid because its solution in alkali has the property of absorbing oxygen from the air. While its solution has this property, the reasoning is incorrect. No statement is made in the Lecture which would justify an answer of this kind. Pyrogallic acid, or correctly, pyrogallol, is formed by the dry distillation of gallic acid, as shown by the following equation:

$$C_6H_2(OH)_3COOH = C_6H_3(OH)_3 + CO_2$$

Because of the method of preparation, it is called pyrogallic acid though it is not an acid. The power of its solution in an alkali of absorbing oxygen is then described, but no connection between the two statements is suggested. The action of the solution on oxygen has nothing whatsoever to do with the fact that it is not a true acid.

Near the last of Lecture 2, Part 2, the statement is made that the group COOH is known as the carboxyl group, and is to be found in all organic acids, but its formula shows that it contains no such group. Pyrogallol, the official name of this chemical, indicates that it is an alcoholic body, and not an acid. The definition, an alcohol is an alkyl hydroxide, would also indicate that the so-called "pyrogallic acid" is not an acid but an alcohol. The reason, then, that it is not classed with the true organic acids is that it does not contain the essential group (carboxyl group) of these acids.

FORMATION OF IONS

One of the questions in Lecture 6 of the new revised edition of Part 1 of the Era Course calls for the formulas of the ions formed by calcium hydroxide, ammonium nitrate, sulphurous acid, and potassium chlorate, and also requests a statement as to which are cations and which are anions. This seems to be giving some of the students a greater amount of trouble than the difficulty of the question warrants. The answer is not to be found in the Lecture but must be thought out, which was the intention in asking the question. A number of the students who have failed to answer the question state that the substances all form cations, and in the case of ammonium nitrate, some few go so far as to state that the ions formed are ions of ammonium (NH_4) nitrogen (N) and oxygen (O_3). Those who wrote that the compounds mentioned give only cations apparently overlooked the facts that ions are parts of molecules and a molecule cannot break down into fewer than two parts, that all compounds of whatever nature form both cations and anions, and the total number of positive charges on the ions from each molecule must be equal to the total number of negative charges, since the sum of the bonds or charges of any compound always equal zero.

The brief explanation of the Theory of Dissociation shows clearly, that bases are dissociated into ions of a metal, and hydroxyl ions; while acids form hydrogen ions, and ions consisting of the entire remaining atoms of the acid. This is shown in the case of hydrochloric acid, which gives H ions and Cl ions, and sulphuric acid, which forms H ions and SO_4 ions. On the same principle, sulphurous acid forms H ions, and SO_3 ions, each molecule of the acid when completely dissociated, yielding two H cations and one SO_3 anion. As stated in the Lecture, sodium hydroxide forms positive ions of Na and negative ions of the hydroxyl group, each ion carrying one charge. Calcium hydroxide, then, forms positive ions of calcium and negative ions of the hydroxyl group, but in this example, the calcium carries two charges and there are two hydroxyl groups, each bearing one negative charge. Salts form neither hydrogen nor hydroxyl ions, but give cations of the metal, and anions of the acid group or element. Ammonium nitrate therefore yields NH_4 and NO_3 ions and dissociation of potassium chlorate forms K cations and ClO_3 anions.

Helped Him to Prepare for State Board

Era Course in Pharmacy:

A few months ago I subscribed to the Era Course as I intended writing the Arkansas State Board and was somewhat "rusty".

I was recently successful in writing this examination, but feel that without the preparation which I received through the study of the lectures as outlined in your course I would not have done so. I will cheerfully recommend the course to any one who desires to register, for if they study it thoroughly and conscientiously they will surely succeed.

Yours truly,

W. E. KENDALL.

Crawfordsville, Ark.

QUERIES ANSWERED

Questions answered under this caption are of a general nature and are numbered consecutively, beginning with the issue of the Era for November, 1918.

279. What changes does creosote water tend to undergo if allowed to stand for some time?

Creosote water, on standing, becomes turbid, and deposits tarry-like bodies formed by the decomposition of the creosote.

280. What occurs when calcium hydroxide test solution is added to an aqueous solution of tannic acid?

On adding to an aqueous solution of tannic acid a small quantity of calcium hydroxide T. S., a pale bluish-white flocculent precipitate is produced, which becomes more copious and of a deeper blue by the addition of a moderate excess of the calcium hydroxide T. S., while a larger excess of the latter imparts a pale pinkish tint to the solution.

281. What effect do salts which are alkaline to litmus paper have upon aqueous solutions of alkaloidal salts?

All salts having an alkaline reaction to litmus form precipitates when added to aqueous solutions of alkaloidal salts.

282. What is the nature of the odor evolved when saccharin is heated above 220° C.?

When saccharin is heated above 220° C. the odor evolved is that of bitter almonds.

283. What is blood?

Blood is the dark red opaque fluid that circulates through the heart, arteries and veins, supplying nutritive materials to all parts of the body; it is composed of four types of form-elements held in suspension in a fluid called blood plasma.

284. What are the four types of form-elements to be found in the blood?

Erythrocytes or red blood corpuscles, leucocytes or white blood corpuscles, blood plates or plaques and blood dust or hemoconein.

285. What is the reaction of normal blood to litmus and what is this reaction due to? What is the specific gravity of the blood of adults?

Normal blood is alkaline in reaction to litmus, the alkalinity being due principally to sodium carbonate. The specific gravity of blood of adults ordinarily varies between 1.045 and 1.075. It varies somewhat with the sex, the blood of the males having a rather higher specific gravity than that of the females of the same species.

286. What are carbohydrates?

Carbohydrates are aldehyde or ketone derivatives of complex alcohols known as aldoses and ketoses, being composed of the elements C, H and O.

287. What are fats?

Fats are esters of the tri-atomic alcohol, glycerol, and the mono-basic fatty acids. They are composed of the same elements as the carbohydrates, i. e., carbon, hydrogen and oxygen, but the oxygen is present in smaller percentage than in the carbohydrates.

288. What are proteins?

Proteins compose a class of substances which consist chiefly of combinations of alpha-amino acids or their derivatives. They are essential constituents of all living cells, and without them vegetable life as well as animal life is impossible. They are composed of carbon, hydrogen, oxygen, nitrogen and, generally, sulphur and phosphorus, while proteins have been described which contain iron, copper, iodine, manganese and zinc.

289. In what part of plants do volatile oils exist?

Volatile oils may exist in every part of the plant from the root to the seed, and sometimes several oils may be found in different parts of the same plant. They do not all pre-exist in the plant, however, some being the result of fermentative action between certain constituents of the latter, and others being produced by destructive distillation.

290. Upon exposure to air, what changes does a freshly prepared aqueous solution of pyrogallol undergo?

A freshly prepared aqueous solution of pyrogallol gradually acquires by exposure to air a brown color and an acid reaction, due to the absorption of oxygen. These changes take place very rapidly if the solution contains an alkali hydroxide.

291. What would you dispense for "aether ext. felix-mas"?

Oleoresin of malefern.

292. What official substance is sometimes called artificial or synthetic oil of bitter almond? What is the chief difference between this preparation and the natural oil of bitter almond?

Benzaldehyde. Natural or true oil of bitter almond contains hydrocyanic acid, while the artificial or synthetic oil does not, unless it is present as an impurity.

293. Has India-rubber any therapeutic properties? Why is the substance of interest to pharmacists?

India-rubber has no therapeutic properties. It is of interest to pharmacists because it is employed in making some of the official plasters and is extensively used in the manufacture of many surgical appliances.

294. Of what substance does the precipitate which separates from tincture of rhubarb on standing, largely consist?

It largely consists of chrysophanic acid.

295. What is the difference in the strengths of solution of lead subacetate and of diluted solution of lead subacetate?

Solution of lead subacetate should contain not less than 25 per cent of lead subacetate while the diluted solution of lead subacetate should contain not less than 1 per cent of lead subacetate.

296. What occurs when silver nitrate is triturated dry with iodoform?

When silver nitrate is triturated dry with iodoform, violent reaction takes place with the formation of silver iodide, carbon dioxide and nitrogen tetroxide.

297. How are oleoresins prepared?

Oleoresins are prepared by percolating the drugs with ether or alcohol and subsequent distillation or evaporation of the solvent from the oleoresin.

298. What is the object of triturating the tar with sand in the preparation of syrup of tar?

The object of triturating the tar with sand is to increase the surface exposed to the action of the solvent and thus facilitate the washing of the tar.

299. What would be the precipitate if a solution of corrosive mercuric chloride be added to lime water?

A yellow precipitate of mercuric oxide. An example of the reaction occurs in the preparation of "yellow wash," N. F.—$HgCl_2 + Ca(OH)_2 = HgO + CaCl_2 + H_2O$.

300. What is the color and chemical composition of the precipitate which is formed on adding calomel to lime water?

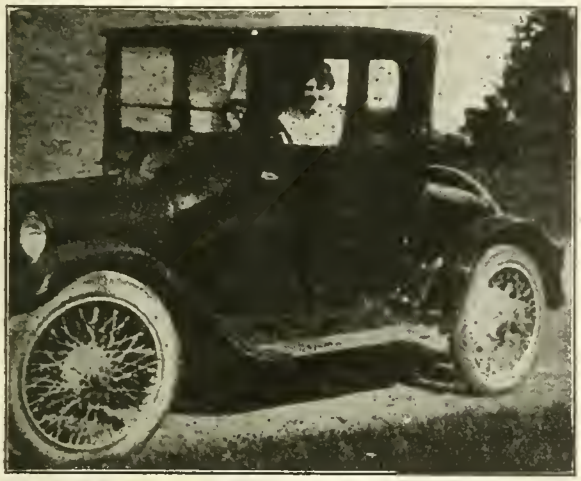
A black precipitate of mercurous oxide, Hg_2O, is formed, this reaction occurring in the preparation of "black wash," N. F. according to the equation—$2HgCl + Ca(OH)_2 = Hg_2O + CaCl_2 + H_2O$.

Women in Pharmacy

CONDUCTED BY EMMA GARY WALLACE

NEW MEMBER OF THE MINNESOTA BOARD

That women can be good pharmacists just as well as men, and can be just as successful in business, is evidenced in the career of Miss Marie A. Piesinger, owner of a drug store at New Prague, Minn., whose appointment by Governor J. A. A. Burnquist as a member of the Minnesota State Board of Pharmacy was recently announced in this department. As a board member she succeeded Charles McGregor, of Detroit, Minn., who was automatically retired from the office, because of his withdrawal from the retail business, the law providing that only active pharmacists shall serve on the State Board.



A graduate of the Minnesota Institute of Pharmacy, Miss Piesinger has been a member of the Minnesota State Pharmaceutical Association for twelve years.

Miss Piesinger explains that she owes her presence in pharmacy to her brother Hubert, under whose tutorship she remained until she became an assistant registered pharmacist. She spent two years in Mr. Nielson's store at Ortonville, Minn., where she received valuable experience in prescription work. About the same length of time was spent with the Axness Drug Co., at Pelican Rapids, Minn. At this time, she became a registered pharmacist and took charge of the Wrabek store at New Prague, which store she bought later in the same year.

"It was right at this point that I came to realize that a woman starting out on a business venture of her own would not find things all velvet," says Miss Piesinger. "I recall vividly the difficulty experienced in an effort to convince the banker that ownership of the City Cash Pharmacy was transferred to me. He insisted on knowing the name of the 'secret partner' or 'manager', who would, of course, be a man. According to his way of thinking no woman could, would or should engage in business without the guiding hand of a male person. He finally decided to accept my statement as submitted, but I knew that in his mind he decided to watch me. Fortunately for me, another banker did not share this skepticism, and it is needless to say that I transacted most of my business—which, at that time, consisted principally of borrowing money!—with the other bank.

"My youngest sister, who graduated from high school the year I bought the store, has been with me ever since and is in a great measure responsible for the patronage and good will which our store has enjoyed. To us, changing a window display or show case display is pleasure, not work. We share alike the long hours, the trials as well as the glories, and would rather be in the retail drug business than any other work women could engage in. To my way of thinking, women are especially adapted for pharmacy, because of their natural tendency toward neatness and accuracy."

WOMAN'S OPPORTUNITY IN PHARMACY

Miss Pearl Markovysky, Ph.G., pharmacist at the Medfield State Hospital, Mass., writes most interestingly as follows, to the Editor of this Department:

"I am much pleased that you ask me to co-operate with you in making this Department a success, and so I will try to give as much encouragement as I can to all women, that those suited to the work may become further interested in this wonderful subject with all its branches and opportunities for service.

"I will begin as far back as possible, and tell you something of my own work.

"I was born in Russia and came to this country when I was four years of age. I went through the nine year course of Grammar School and graduated from the McKinley School in Revere, Mass. I went through the four year course of High School and graduated from the Dorchester High in 1917.

"As I planned to go to some college either to take up medicine or some other similar profession, I took a full preparatory course in High School, and while there I heard of pharmacy being taken up by many women. The idea appealed to me and I began to plan accordingly.

"Next I heard of the Massachusetts College of Pharmacy and made plans to enter this institution after I graduated. Accordingly I registered when the time came and took up the full two year course. The laboratory work itself is very interesting to one who enjoys that kind of work, and I found the greatest of interest in every hour spent in college.

"I completed the full course in the two years, and during the summer I worked in a drug store to get my practical experience. I graduated in 1919 and got my degree of Ph.G. I was then offered the position of pharmacist in the Medfield State Hospital, which I accepted and am now holding. I have full charge of the pharmacy in the institution which has over sixteen hundred patients, and a very large number of employees.

"I am now twenty-one years of age. I enjoy my work very much and advise everyone who has the opportunity, to become interested in pharmacy. Every year more and more women are being attracted to this work, and as a result the number of trained women pharmacists is increasing. They have the same opportunity to succeed as men, and the same positions and the same responsibilities are offered to them.

"I hope that your Department will meet with great success.

Respectfully yours,

Pearl Markovysky, Ph.G."

The modest account of this clever young lady of what she has achieved, should be of great encouragement to every woman who looks and wonders and fears to make a beginning.

AROUND THE CIRCUIT

Milwaukee Chapter, No. 19, adopted a French war orphan last year and have already raised quite a sum of money to care for it through the coming cold weather months.

At the recent meeting held at the Blatz Hotel, Mrs. S. A. Eckstein, first vice-president of the National organization, gave an interesting talk on the Eastman Kodak plant as seen by the visitors to the National Convention. On Nov. 9 the Chapter gave a dancing party at the Auditorium, the men folks attending in goodly numbers.

Cincinnati Chapter, No. 5, enjoyed a basket picnic at the home of Miss Addie Fallon, New Richmond, Ohio, in order to hear the reports of the W. O. N. A. R. D. Convention at Rochester. The delegate, Mrs. Blesi, presented a paper which summed up the convention doings in an excellent manner.

On the evening of Nov. 5, the Chapter gave a card party at the Gibson Hotel, the committee in charge consisting of Mrs. Joseph Schneider and Mrs. Albert Krause. The attendance was a record breaker.

Mrs. Anna Groenland was the hostess of the October meeting, and Mrs. Walter Fallon entertained at the November meeting. Great preparations were made for the Yuletide gathering, which was held at Mrs. Blesi's.

Philadelphia Chapter held its first fall meeting in the Museum of the College of Pharmacy, a large attendance being present. The afternoon was given over to reports of the Rochester Convention, Mrs. Lee, Mrs. Blackwood, Mrs. Metzel, Mrs. Hunsberger and Mrs. Richardson making formal reports.

The Chapter is regretting greatly the resignation of the corresponding secretary, Mrs. L. R. Hoffecker, who has served the Chapter in this capacity faithfully for eight years. Mr. Hoeffecker is obliged to retire from the active drug business for the present on account of ill health, and Mr. and Mrs. Hoeffecker will leave the city for a time.

Rochester Chapter, No. 22, held its first regular meeting in the Hotel Seneca, with Mrs. Harry B. Guilford presiding. The Executive Committee elected by the Chapter consists of Mrs. C. R. Croff, Mrs. J. S. Flannery, Mrs. B. O. Heath and Mrs. Charles Peck. The Baby Chapter has a charter membership of thirty, and it is expected that this will soon be doubled.

The Ladies' Night of the Chicago Drug Club was to be celebrated at the Hotel LaSalle, Chicago, on the evening of Jan. 27. Some of the wholesale houses are making this an occasion to be remembered for their employees, and the prospects were that it would be a very important social affair when the ladies of the Chicago drug trade would have an opportunity to meet the gentlemen in the profession throughout the city.

Great sympathy is entertained for both the Jacob and Fietsch families. On Christmas morning, Mrs. Lizette Jacob-Fietsch, of Forest Park, Chicago, died giving birth to a small daughter. She is survived by her husband, Dr. J. R. Fietsch, a son, a little girl and the baby. Sympathy is also felt for Charles Orr, of 13633 Indiana avenue, Chicago, whose wife died in childbirth at the youthful age of twenty-four. The funeral of mother and child took place from the Orr residence at 8250 Blackstone avenue.

The many readers of this journal will remember that Mr. Louis Didier, a Chicago druggist, died suddenly last spring, leaving a widow, Mrs. Rosalie Didier, and a little son, an only child. On Dec. 16, the son, who was but two years of age, succumbed to pneumonia. Mrs. Didier has been an indefatigable worker in all the undertakings of the Women's Organization of the C. R. D. A. She is a sister of Mrs. Horace Nelson, and great sympathy is felt for the family by their many friends.

The Chicago Chapter of the W. O. N. A. R. D. considered it best to postpone the annual Children's Christmas Party until some time in the spring. This action was taken on account of the coal strike and the poorly heated trains. It was considered unsafe to bring the small children out lest their health be unnecessarily exposed to danger.

Mrs. Mary E. Bays, wife of druggist George M. Bays, of 1601 Montrose Boulevard, died recently, after a lingering illness of two years. Besides a husband, she leaves four daughters and a son.

Congratulations are extended to Mr. and Mrs. Hugo J. Schumm, of 958 Center street, who were rejoiced on Jan. 4 by the arrival of a plump baby daughter.

Chicago Chapter, W. O. N. A. R. D., celebrated its fourteenth birthday on Tuesday afternoon, Jan. 14. The affair was given in Roosevelt Hall in the State and Lake Building. A cafeteria luncheon was prepared and served by the ladies of the organization under the direction of Mrs. H. C. Christensen, chairman of the day, assisted by the following members of the committee: Mesdames J. A. Abrahamson, Frank Alexander, W. J. Bignold, Frank Dubsky, S. J. Kuflewski, M. McAnay, George Merz, H. C. Rauschert, A. Umenhofer, A. O. Wulz.

Each lady was asked to contribute toward the various items of the menu, and the results were most gratifying. This method was used in the interests of economy in view of the high cost of living, and especially banquets. Luncheon was served at 12 o'clock, and the members were privileged to bring a friend. Among those who took part on the programme were Mrs. Mary Moncure Parker, Mrs. B. J. Curtis and Miss Eileen Geary.

A Mount Adams (Cincinnati) druggist's wife, Mrs. D. E. Murphy, met with a painful accident recently when, through a fall, she sustained a broken wrist.

The Boston Chapter of the Women's Organization gave a whist party as the finale of its December meeting. There was an excellent turn out, and a royal good time was enjoyed by everyone. Mrs. Frank Jones was in charge of the affair.

Regret is expressed for J. G. Godding, so well known in national drug circles, who met with a somewhat serious accident when struck by an automobile as he crossed the street. Mrs. Godding has long been a prominent club worker and was prominently identified with the W. O. N. A. R. D. in its early days. At the present time, her greater interest is given to the Women's Section of the American Pharmaceutical Association.

Sympathy is extended to W. A. Ackenhausen, a Kansas City, Mo., druggist, whose wife passed away in December. Mrs. Ackenhausen was highly educated and very active in Kansas City educational circles. She will be greatly missed.

Philadelphia Chapter, No. 6, held its annual Children's Party, Saturday, Dec. 27, in the Museum of the College of Pharmacy. The College Settlement children, as usual, were the guests at the party. Each member brought a child and also brought gifts of toys, books and clothing for the children.

At the November meeting of St. Louis Chapter, No. 8, plans were made for a Five Hundred Party, which was given at the Planters Hotel in December and proved a grand success. The proceeds were contributed to Christmas charity work. A number of beautiful prizes were generously donated by the wholesale drug houses.

Sympathy is extended to Mrs. J. H. Rompf and Mrs. J. E. Kilgus, of Louisville Chapter, No. 11, both of whom have recently lost their mother.

For the first time in its history, Louisville Chapter, No. 11, held its December meeting in the Louisville College of Pharmacy, the invitation to hold the meeting there being extended by Dr. O. C. Dilly, dean of the college and representative of the executive board. Mrs. Dilly, the doctor's wife, is at present secretary of the Chapter.

The card party given by the Chapter at the Hotel Tyler, the latter part of November, was a very successful affair. Mrs. William Anz acted as hostess of the occasion.

The annual Christmas Children's Party of Milwaukee Chapter, No. 19, held on Monday, Dec. 29, in the parlors of the Blatz Hotel, was enjoyed by all present, the children being especially delighted by the many surprises which Mrs. H. Wusson, the chairman, had planned for them.

The Chapter celebrated its seventh birthday in January, by holding a luncheon, which was followed by cards at the Wisconsin Club.

Herman Lambeck, husband of the president of the Chapter, is seriously ill.

The December meeting of Indianapolis Chapter, No. 20, was cancelled on account of the death of Mr. Smith, husband of one of the members, which occurred suddenly after a few hours illness. Sympathy is extended to Mrs. Smith in her bereavement.

At the January meeting, interesting reports were heard from the recently appointed delegates: Mrs. E. J. Arold, to the Local Council of Women, and Mrs. Edward Ferger, to the Seventh District of the Federation of Clubs.

Cleveland Chapter, No. 21, held its regular meeting Nov. 28. Both the president and both vice-presidents being absent, the secretary, Mrs. Hellwig, took the chair.

Two very interesting speakers took part in this meeting. Mrs. Elmer Derr, chairman of the Thrift Committee of the Federated Clubs, told some of the causes of the present high cost of living, and showed how each and every woman could do her part to help in reducing this by being careful in her choice of food and clothing and, above all, by being thrifty.

Miss MacLeod, who has charge of the Bureau of Household Economics in the Society for Savings Banks, used an illustrated chart to show the best way to make up a household budget. She has had large experience in working out such figures, and every one present felt it would be an interesting experiment to work out a budget for their own household.

The December meeting was omitted, owing to the fact that the regular day came so close to Christmas.

Boards of Pharmacy

WISCONSIN

The following applicants passed successful examinations at the meeting of the Wisconsin Board of Pharmacy held in Madison recently:

Registered pharmacists: Charles J. Brinkerhoff, Elmer C. Gabler, and Lewis Neff Ashworth, Madison; Hugh Clifford, Richland Center; Werner H. Rilling, Abbotsford; Cornelius Bittner, Mayville; W. K. Mills. Hazel Green; Jacob Stegman, Portage; John Frank Nas, Henry F. Czerwinski, Julius Doszyniski, Erich Kunze, William Oscar Lage, Albert Alexander Lohr, and Earl Sutton, Milwaukee.

Assistant pharmacists: Howard A. Barry, Alvin Clorn, W. J. Dombrowski, Eros Heinrich, Herman Jaffe, Jack Lucher and Peter O. Wang, Milwaukee; Emil C. Horn, Kenosha; James Shapiro, Superior; Edward K. Klentz, Merrill; Grant T. Tilfer, Whitewater, and E. Ullsperger, Marinette.

IOWA

The Iowa State Pharmacy Commission recently examined a class of thirty-five applicants for licenses to practice pharmacy, fourteen of the number being successful. Their names are as follows: B. Bernard Berry, Moulton; Dallas L. Bruner, Clio; Richard E Doolittle, Des Moines; James L. Davidson, Fort Dodge; Raymond B. Hess, Iowa City; Clifford W. Iosty, Anamosa; John S. Lane, Sioux City; Jessie M. Rose, Des Moines; Karl Shaver. Iowa City; Cyrus P. Trowbridge, Des Moines; James V. Thompson, Des Moines; Robert S. Welso. Des Moines; William A. Witte, Burlington; Donald E. Willson, Oelwein.

MARYLAND

J. Newton Gilbert, an Annapolis druggist, has been appointed a member of the Maryland Board of Pharmacy to fill the vacancy caused by the resignation of David R. Millard, of Baltimore. H. Lionel Meredith, at a meeting of the board before Christmas, was designated temporarily as secretary.

REGISTER YOUR "STILL," IF "SET UP"

Section 3258 of the Revised Statutes of the U. S. provides that every still, no matter of what kind, set up, must be registered. So far as one can gather from the law, it makes no difference what kind of a still one has, whether glass, copper, iron or other material, whether for water, alcohol, nitrogen determination, or other operation, whether large or small, it must be registered.

Also, it appears that no exception is made for Federal, State, municipal, school or other laboratories. While it may seem absurd to require the registration of stills used obviously for chemical operations, and under conditions beyond any possible suspicion, nevertheless, it must be clear that if the revenue officers are to enforce the law—to keep track of all stills and apparatus that might be used for distillation—a complete registry is quite essential. Ignorance of the law is no excuse.

The war trade section of the State Department lifted the general import ban on a number of drugs and narcotics, effective Jan. 10. Salvarsan, neosalvarsan, arsphenamine and all substitutes and equivalents, together with narcotics, may be imported without let or hindrance. The necessity of procuring individual import licenses for shipments is waived.

PREPARATION OF PRECIPITATED CHALK

Some interesting facts were brought out in a recent case before the United States Court of Customs Appeals relating to the assessment of duty on an importation of precipitated chalk, the question being whether such chalk was dutiable simply as "chalk, ground or bolted," or was dutiable at a higher rate as "chalk precipitated, suitable for medicinal or toilet purposes." It appears that in certain parts of England the water supply for various cities is obtained by driving wells of a sufficient depth to reach the fissures in the chalk deposits which underlie the soil there. The wells go to a depth of about 600 feet, and the water must be pumped to the surface. The water thus procured is so densely saturated with lime that it must be treated before it becomes fit for municipal use. Accordingly, it is first pumped into large precipitating basins, where it is mixed with chemical reagents and agitated with compressed air. After a period of 24 to 48 hours the lime in the water and the reagent as well drop to the bottom in the form of white precipitate of chalk. This covers the floor of the basin to a depth of perhaps 6 inches. The water is drawn off for municipal use. Afterward the creamy mass of precipitate is removed from the basins and dumped upon near-by piles. This process is, of course, continued incessantly. If there is a market for the precipitate, the quantity desired is taken from the dumps and dried; it is then bolted, and packed in casks or bags for shipment. In the evidence it was brought out that as a general commercial rule, the imported chalk after importation must be carefully bolted and otherwise treated before it becomes a trade article fit or adapted for medicinal or toilet use. One witness representing a firm which imported the chalk in quantities of from 50 to 500 casks at a time for sale all over the country, testified that while it sold primarily to manufacturers of tooth powder and toilet preparations, it is also sold quite largely to paper manufacturers, rubber manufacturers, lithographers, and to manufacturers of metal polishes, paints, the oil and grease industry, and for fireworks.

U. S. LARGEST PRODUCER OF TALC

America leads the world in the talc and soapstone industry, not only in production but especially in manufacture and use. The output of talc in the United States sold in 1918, according to J. S. Diller, of the United States Geological Survey, Department of the Interior, was 191,477 short tons, having an average value of $10.91 a ton. This was a decrease of about 7,000 tons in production as compared with that of 1917 but an increase of more than $200,000 in value.

Vermont produces the largest quantity of talc, but the output of New York is of greater value. California ranks third in quantity and value and, notwithstanding the general decline in production elsewhere in the United States in 1918, it more than doubled its output of 1917. The United States produced about 58 per cent of the world's output of talc in 1918 and in addition imported more than 11 per cent of all the talc produced by the rest of the world.

Virginia is the only great producer of soapstone in the world, shipping more than 15,000 tons in 1918.

CROP OF GENTIAN ROOT

Advices from Vigo, Spain, say that the amount of gentian root gathered this year is estimated not to exceed 400 tons. Last year's yield was only 200 tons, but stocks from the previous year's crops were then available. The crop of 1916 amounted to 1,000 tons and that of 1917 to 500 tons. Prices in 1918 were 0.85 to 0.95 pesetas per kilo, or about seven and one-half to eight cents per pound, and because of these low prices no attempt was made to gather a bigger crop in 1919. Speculators are, however, reported to be holding their stocks until they can obtain 1.20 pesetas per kilo, or about ten and one-half cents per pound.

DOCTORS' "LIQUOR" RESOLUTION

The members of the Vancouver Medical Association are chafing under the criticisms launched against the medical prescription system for obtaining liquor and have passed the following resolution unanimously:

"First, we desire to go on record as utterly repudiating any responsibility for the enforcement of the act and to deny that, as a profession, we are law-breakers.

"Secondly, there is at present a large public demand for liquor; whether for medicinal or other purposes, the medical prescription is the only method whereby liquor can be obtained and this has led to undue pressure on physicians, and has become an intolerable nuisance to the medical profession.

"Thirdly, if the demand for liquor is to be met, we most respectfully suggest to the provincial government that the medical profession be entirely relieved of the responsibility of dispensing liquor by the provision of other means whereby the same may be obtained."

BOOKS IN THE MEDICAL SERVICE SECTION of the Evanston Public Library. Compiled by the Secretary under the direction of the Medical Science Committee. 67 pages. Evanston, Ill.

This is a catalogue of the books shelved in the Medical Science Room (founded in honor of Dr. E. H. Webster) on the lower floor of the Evanston Public Library, classified according to the Dewey Decimal system, and arranged in ten classes. There is also an appended list of several hundred unclassified medical books to be found in the library. According to a rule of the library, privileges to the Medical Science Room are open to the mayor of the city, members of the city council, members of the Library Board and of the Medical Science Committee, resident physicians and surgeons, and all other adult persons whose names appear on the approved list of Medical Science patrons on file with the library.

AN UNUSUAL BOOKLET

A new and very attractive pocket booklet on "Influenza. Colds and Catarrh," has recently been sent out by H. K. Mulford Company. It presents in concise, readable form some interesting facts regarding the history and etiology of the disease, and also regarding preventive and curative treatment, with hints as to dosage, etc. This booklet may be read with profit by every physician and druggist in the country. Typographically, it is exceptionally good, and the illustrations are interesting. Copies may be obtained free of charge by writing to H. K. Mulford Company, Philadelphia, Pa.

A brochure on "The Tree, The Olive, The Oil," in Europe and America, has been published by John Hurley, Ph.G., member of the New York State Board of Pharmacy. The history of the tree is traced from the time of its introduction into Greece from Southern Asia to the present day. The uses of olive oil in chemistry and medicine are explained, and the closing chapter is devoted to its ecclesiastical use.

The Department of Commerce announces that 1,250,000,000 pounds of sugar valued at $97,000,000 were exported from the United States during the first ten months of 1919.

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A BINDER
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A Century of Pharmacopoeia Making

It is yet too early to say with any degree of precision what are to be the outstanding features of the United States Pharmacopoeial Convention which is to hold its decennial gathering in Washington on May 11 next. It can be safely stated, however, that indications point to a meeting which will be truly representative of American medicine and pharmacy, and that the attendance will be larger than that of any previous convention. The latter assumption is based on the fact that both physicians and pharmacists now recognize to an extent they never did in the past, the real position of the Pharmacopoeia as an official standard under the Food and Drugs Act, while some organizations which were not in existence or not legally incorporated ten years ago, will ask for the admission of delegates to the convention, on the theory that as the book applies to them they should have a hand in its making. From various sections come reports indicating that every interested organization will be represented at the Washngton gathering.

The meeting of the Convention this year is significant in that it will mark the completion of one hundred years since the General Convention assembled in the Capitol, Washington, for the formation of a National Pharmacopoeia. The work so begun, gave to the medical and pharmaceutical professions the first United States Pharmacopoeia, which was published in Boston, December 15, 1820, in both the Latin and English languages. In comparing this edition of the Pharmacopoeia with the present current revision, one soon begins to realize that this century of pharmacopoeia making spans most of the real advances that have been made in medicine and pharmacy as these are practiced today.

A century ago, pharmaceutical assaying, in the modern sense, was yet unborn, and biological standardization was a long way off. The process of percolation now deemed so important from the viewpoint of pharmaceutical operation, was not accorded recognition until the Pharmacopoeia of 1840, and even pharmacists were not represented by delegates until the convention of 1850. In this day and age, one can hardly conceive of a pharmacopoeia in whose preparation the pharmacist has not had a hand, but in the earlier editions the work of revision was done entirely by physicians. In recent revisions, pharmacists have contributed their full share of work, a duty which undoubtedly will continue to be performed by them. Creditable as this work has been to the pharmaceutical profession in the past, the responsibility of preparing a Pharmacopoeia which shall meet in no uncertain degree the needs of pharmacy, still rests with pharmacists. It is important that all qualified organizations should be represented by competent and fully authorized delegates in the 1920 convention.

Plotting the Field of Research

One of the significant measures adopted by the Executive Committee of the Council of the A. Ph. A. at the meeting held in St. Louis a few weeks ago, was the report favoring the establishment of an endowment fund for pharmaceutical research. Even to those who have given scarcely any consideration to the needs of scientific progress in pharmacy, the arguments set forth in the report will emphasize many conclusions already advanced in some form or other, but so far as we are aware, this is the first studied attempt on the part of a committee to propose a plan for investigation in the "vast domain of research that is distinct from the specialized fields preoccupied by medical and research foundations."

A perusal of this report, which appears elsewhere in this issue of the Era, suggests a field of investigation whose boundary lines circumscribe an area within the confines of which all pharmacists may labor. Such a prospect appeals to the imagination and strengthens the hope of the scientific pharmacist that his calling is nearer to the learned professions than many of his co-laborers have been willing to admit. The plan makes provision for covering not only the avenues open to pure pharmaceutical research in collaboration with collateral research, but would encourage the prosecution of study and investigation in an efficient manner and collate the greatest volume of scientific information and apply it for the benefit of the welfare and progress of the world.

Such a plan for pharmaceutical research needs the organized and united effort of many to direct it, and a fund sufficiently large with which to work. To provide these necessities, the establishment of a research endowment is proposed in which all national pharmaceutical drug and chemical organizations are to be invited to participate, while the fund so provided is to be controlled and managed by a board of trustees consisting of one representative from each of the organizations joining in the incorporation of the endowment.

That pharmacy needs the views of men gifted with broad visions of future advances, is the belief of a large number of pharmacists. As a necessity for future progress, the need of research was frequently emphasized during the continuance of the World War, and all are agreed that research is bound to play an important part in the reconstruction problems the nations are now considering. Doubtless many of these conceptions when put into operation would throw into the discard much of the empiricism of the past, but in its place would come newer rational processes of thought and a clearer knowledge of the fundamentals of real progress. The establishment of an American Research Endowment Fund is a worthy object which needs the support of all organizations of pharmacists.

George P. Engelhard

In the passing of George P. Engelhard, a record of whose death appears elsewhere in this issue of the Era, pharmacy loses one who, though not reared in the atmosphere of the drug store, yet lived long enough to exert a powerful influence upon our profession as it was practiced in the days of his young manhood. Drifting into the pharmaceutical publishing business in the late 70s, he quickly realized what to him seemed to be the need of pharmacy, and thenceforth devoted his energy and a large part of his time to the movement which in the Central West culminated in the organization of State pharmaceutical associations, the members of which were instrumental in placing upon the statute books the various forms of enactments that characterized our early attempts at pharmaceutical legislation. With his own hand Mr. Engelhard drafted the first Illinois pharmacy law, an accomplishment of which he was justly proud. Always a forceful speaker, and following his theory of a journalist's function of regarding himself as a trustee for his "public," he made his influence felt at pharmaceutical gatherings. Whatever he did was conceived and performed in a spirit of generous optimism, and therein lay the secret of his influence with pharmacists.

Against Misuse of Wood Alcohol

The publicity that has been given in the newspapers to cases of poisoning from the use of wood alcohol, should be sufficient to acquaint the average individual of the danger lurking in the trail of this product of destructive distillation. Of value in the industries, when rightly and intelligently employed, it becomes a veritable demon when misused or imbibed by mankind. As Dr. Reid Hunt, Head of the Department of Pharmacology of the Medical School of Harvard University, stated recently, "poisonousness is its inherent quality, and it is as impossible to prepare non-poisonous wood alcohol as it is to prepare non-poisonous prussic acid."

Notwithstanding this denunciation passed upon it by the medical profession generally, and the wide publicity that has been given to the results of its evil effects in the newspapers, fatalities from its use continue to occur. Legislatures have been importuned to enact measures to protect the people from its dangers, and many of them have done so. Legislation has made it unlawful to use wood alcohol in any article of food, beverage, medicine or toilet preparation, and such laws have been quite generally observed by manufacturers. The danger, however, has not caused much trouble from its use in such preparations. The most deadly effects have been directly traced to its employment as a substitute for ethyl alcohol as a beverage. The situation is serious enough for druggists to take upon themselves the responsibility of a campaign of education by calling the attention of every purchaser of wood alcohol to its toxic character. It is in this direction of effort that warning posters like that described on page 87 of this issue of the Era will prove helpful.

The Cinchona Industry in Java

Cultivation of Tree in Netherlands Colony Now Supplies Nearly All of World's Production of Bark

By **K. R. F. BLOKZEYL**, Buitenzorg, Java

CINCHONA bark, which is without the slightest doubt the most valuable medicinal bark known to science, is obtained from the cinchona tree, of which there are many species. It owes its efficiency as a febrifuge to the alkaloids, which are its principal constituents, and of which quinine is universally reputed.

Cinchona originates in the wild state from South America, where it is found in the forests of the Andes, in the zone between 10 degrees N. L. and 19 degrees S.L., at an elevation above sea-level varying from 3000 to 9000 feet.

Various botanists and others interested visited South America with the support of their governments with a view to studying the subject, the result of which was the introduction of cinchona plants into tropical Asian countries, viz: British India, Ceylon and Java. The home governments of both the British and Netherlands colonies respectively supported all efforts to introduce the tree, and this was eventually accomplished successfully.

From the date of its introduction into Asia, the cultivation of the tree prospered, whereas the exports of bark from South America diminished. British India and Ceylon were for a time the most successful growers. The cultivation of cinchona from about 1875 onwards kept Ceylon above water, the planters there making good profits. In the eighties, the supply exceeding the demand, prices of quinine, and consequently of bark, fell; the Ceylon planters deserted the cultivation of cinchona for that of tea; the exports of bark from Ceylon exceeding 15,000,000 lbs. in 1886 falling to about 80,000 lbs. in 1910.

British India never took up the cultivation very actively, and at the moment there are but two Government plantations, the product of which is destined for consumption in the country itself. Moreover there are a few private plantations from which bark is bought up by the Government. The total production of quinine salts in British India does not exceed 55,000 lbs.

On the abandoning of cinchona by Ceylon, Java, which has been applying herself to the cultivation very assiduously, immediately forged ahead, and since then has supplied nearly all the world's production of bark.

The history of the cultivation in Java may be recorded here in a few lines. Transferring cinchona to other countries was about the middle of the 19th century a new departure, which Europe eagerly went in for. About that time the medical world of Europe had learned more and more to appreciate the therapeutical qualities of quinine for combating "malaria" and other fevers, and had become more and more worried about the insufficient and uncertain supplies of cinchona bark in the market. This was, of course, due to the unsatisfactory conditions of production in Peru and Bolivia, and it was therefore considered most important to secure regions more suitable for the growth of the tree where it could produce bark abundantly for the benefit of the whole world.

A Grove of Cinchona Trees on a Plantation in Java

As a result, colonizing countries, such as England, France and Holland, quickly responded to the general opinion, which was highly in favor of experiments to be made without delay. Experiments made by France in Algeria soon failed, whereas England only succeeded in introducing into India a poor low-graded breed of little value. Experiments made by Holland date back to 1839, when only one cutting had been secured and brought to growth in Java. It may be possible that no one thought of securing seeds from Peru or Bolivia, or that this plan was considered impracticable. Anyhow no efforts were made to secure such seeds for Java, but evidently the misfortunes of England and France spurred the Hollanders to do everything possible in order to solve the problem.

The Netherlands Government decided to take the matter in hand. A scientific botanist, Dr. Hasskarl, was charged with a mission to Peru and Bolivia, where he continuously met with difficulties and was kept busy for a couple of years, secretly and in danger hunting for and scrutinizing the different species and recording their botanical and chemical properties. Ultimately, however, some parcels of seeds were secured, which in 1854, by the aid of a Dutch man-of-war, kept in readiness at La Paz, were sent to Java and there formed the first generation of some 75 cinchona trees of the Calisaya and Succirubra varieties In the following years more seed was collected, thanks to the good offices of the Netherlands consuls in Bolivia, Peru and Ecuador, thus extending the Java breeds of cinchona. The most important parcel of seeds, which afterwards arrived in Java, was a pocketful offered for sale by an Englishman, G. Ledger, in 1865. The offspring thereof proved, when the bark was analysed in 1872, to surpass all other kinds then known as regards the content of alkaloids and purity, and as a result of the discovery, this superior species was called *Ledgeriana*.

Species and Varieties

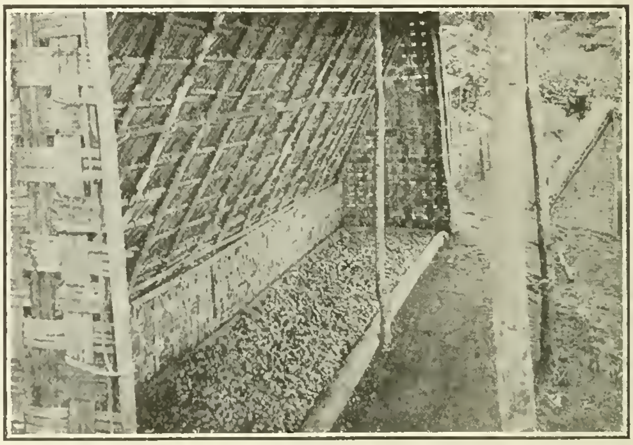
More than 20 species of cinchona are described, each of which shows a marked predilection for a particular locality. They diverge little from each other, and easily from hybrids, so that the already small distinctives of the species still grow smaller. Consequently, the botanical derivation is in most cases uncertain and, therefore, chemical analysis as a determinative of species, has successfully taken the place of botanical diagnosis. Neither does every species of cinchona show the same content of alkaloids, nor do these always exist in the same proportion, so that many of the species are of no value as medicine. Some plants, which do not belong to the family of cinchona, but which are reckoned to belong to the same genus, viz: the *Cinchoneae*, show the same alkaloids as are present in cinchona; there are the *Ladenbergia* and the *Remyea*, which yield the so-called *China cuprea*.

The *Cinchona Calisaya*, cultivated in Java, shows a great variability, the most famous variety being the *Cinchona Ledgeriana*. This variety, as well as a hybrid of the Ledgeriana and the Succirubra, are the chief producers of the so-called factory barks (for the manufacture of quinine sulphate), whereas the so-called pharmaceutical barks are obtained from *Cinchona succirubra*, and from a hybrid of *C. officinalis* and *C. succirubra*, viz.: *C. robusta*.

Cultivation

Experiments have brought to light that an elevation above sea-level of about 5000 feet and a temperature of 16° to 17° C. is best for the cultivation of cinchona. The best soil is one of mixed composition, rich to a great depth and of a loose texture. Doubtless the slopes of the mountains, the tops of which are still covered with virgin forests, furnish the most appropriate localities for the cultivation in Java. Even very steep slopes can be utilized for plantations, provided they are terraced amphitheater-like in order to facilitate planting and cropping, and to prevent the washing away of the soil by heavy rains. Land of good quality seems to be utilized uninterruptedly for three or four generations of trees, although in such cases some decrease in the amount of alkaloid has been noted in comparison with that produced from trees grown in the plantations on virgin forest soil.

The young plants are raised from the seeds in nursery-beds, the seeds being obtained from specially selected superior trees, which are exclusively kept for this purpose. After six months the seedlings are strong enough to be transplanted to other nurseries. A couple of months thereafter, beginning with the largest, the seedlings for the third time are transplanted to fresh nursery-beds, where they are placed in rows at distances of half a foot. There they remain until they have reached a height of 2 to 3 feet, and are then planted out in the gardens.


Nursery Bed with Young Seedlings

The Preanger Regencies, a district in West Java, has proved itself to be the region *par excellence* for the cultivation of cinchona, and the percentage of quinine obtained from the bark of trees grown there is far higher than elsewhere

Artificial Multiplication

Next to the rearing of the plants from seeds, which may be called natural multiplication, stands the artificial method of propagation by grafting. The last method is preferable, because it better preserves the type. But even then the identical chemical constitution is not always secured, owing —as experience has proved—to the influence of the constituents of the soil.

Harvesting

After being introduced in Asia, cinchona created a problem as to the best method of harvesting. Different trials were made, among others with the mossing system, which is accomplished by partially stripping off the bark, and covering the denuded parts with moss. Another way was to cut down the stumps to a certain height from the ground in order to let them renew their stems by fresh buddings. At the present time the method mostly applied is to cut down, according to planting distances, sections of the plantations containing trees of three or four years old, which sections are immediately replanted. The bark of the felled trees is then collected. On older plantations the thinning-out method is mostly applied.

The harvesting of the bark differs according to whether it is destined for pharmaceutical purposes or for the manufacturing of quinine salts. Winning the so-called pharmaceutical barks is done by removing a ring of the bark at the stem's base. When felled, the stems are gauged in squares of ¼ to 1 metre in length and ¼ of a metre in width, the squares of bark being then removed. Sometimes the moss on the bark is left unhurt, which gives a higher commercial value to the barks. If the moss is not considered, the periderma is brushed and beaten with a wooden hammer, by which process the bark frees itself from the stem. The fresh bark is dried in a shady place by means of bamboo poles, on which the pieces of bark are saddled in order to preserve their cylindrically curved shape. When curved in such a shape, the drying of the cylinders is finished in the sunshine. Barks of a silvery white color are most desired, and these are carefully dried in the open air as far as possible, and then sorted. They are marketed under the name of "pipe barks." Barks of roots and branches, which cannot be cut in the above mentioned measurements, form a distinct assortment, known as "broken pipes."

Harvesting and Drying

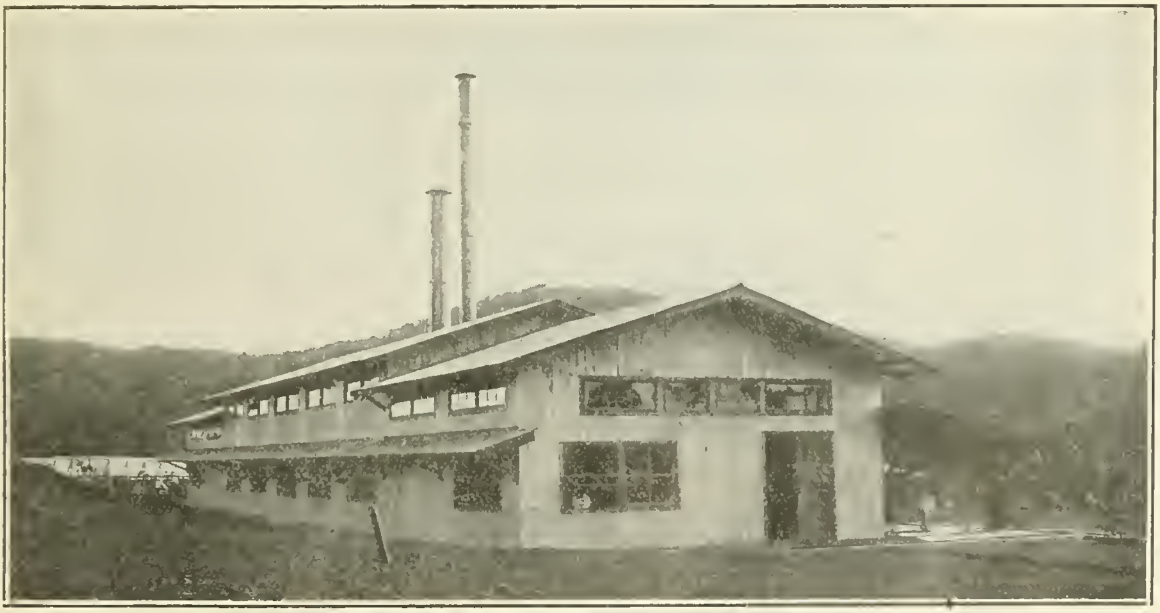
In harvesting bark for manufacturing purposes, the stem is beaten with a wooden hammer, by which the bark loosens itself, and this afterwards is scraped with a horny knife. Sometimes the periderma of the rootbark of the pharmaceutical product is removed by washing and brushing the pieces. If water is available, it is always advisable to clean the rootbark by washing the sand out.

The fresh bark, when just stripped off, contains a large percentage of water, which amounts to some 75 per cent. By drying in the air, 60 to 65 per cent of this water evaporates and the remaining 10 to 15 per cent can only be removed by artificial drying at a temperature of 100° C. The temperature should not be higher, as otherwise the percentage of quinine decreases. Newly harvested barks, being artificially dried without first drying in the sun, give an inferior product of strong color. Sun drying is done on movable wooden floors placed on rails, which at night or in case of rain can be wheeled underneath a shed.

Chemical Composition of Barks

The best known principal alkaloids present in the barks are: quinine, quinidine, cinchonine and cinchonidine. While formerly the bark fibres were thought to contain more alkaloids than the parenchyma, closer investigation has shown that the parenchyma, especially the outside cortex, is the bearer of the alkaloids. As far as the location is concerned, it has been found that the alkaloids are found in every part of the tree, but principally in the bark of the stem, the outside cortex being always richer in alkaloids than the inside. The age of the tree also influences the quantity of alkaloids in such a way that the maximum percentage is reached in the sixth year; the percentage then slightly decreases until the twelfth year, after which no change in the quantity has been observed in the alkaloids available in the tree.

The Ledgeriana variety, which in bark of the stem, as well as in that of root, is richest in quinine, but the bark of the stem has more cinchonine than is found in the bark of the root. Moreover the analysis of rootbark of Ledgeriana from trees 12, 7, 4, 3 and 2½ years old, has proved the superiority of the younger roots over the older ones. Among the influences which affect the production, are to be recorded: disease, character of the soil, manuring, shade, renewal of the bark, death by frost, drying at too high a temperature, and exposing the bark dust to dampness.



Building for Artificial Drying of Cinchona Bark

There are, according to the latest returns published by the Department of Agriculture. 104 cinchona estates in Java, with an area of 11,345 acres wholly planted with cinchona, and 22,585 acres of mixed cultivation. In the other islands of the Dutch East Indies, cinchona is only planted in Sumatra on a small scale, there being only 4 estates, with an area of 438 acres of unmixed. and 351 acres with mixed cultivation.

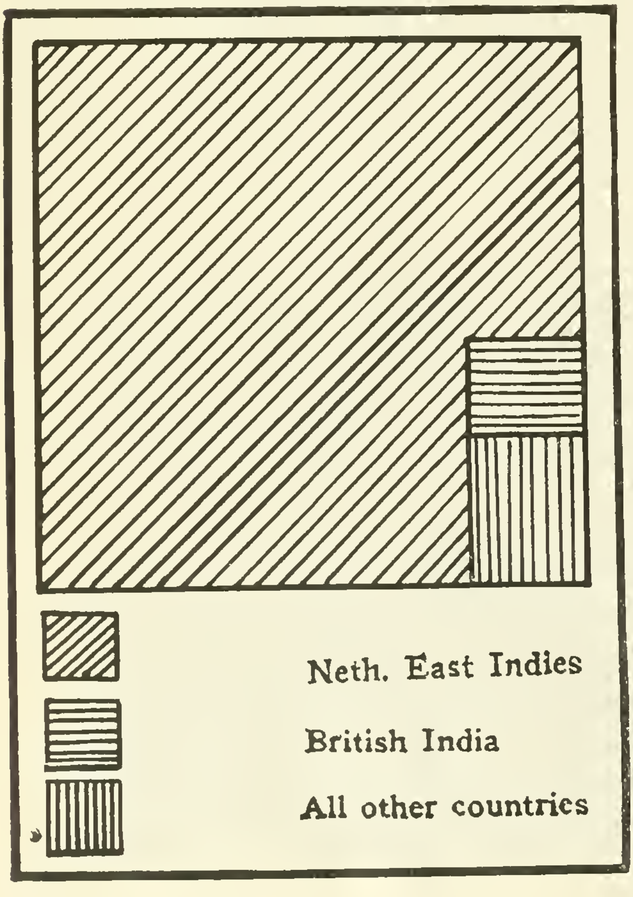
Exports of Barks

About 90 per cent of the world's production of cinchona bark is obtained from the island of Java; the rest coming from British India, Ceylon and Latin America. According to official statistics; the exports from Java (shipments for private companies and the Government together) amounted to:—

Unit: Kilogrammes

Countries to which Exported:	1913	1914	1915	1916	1917	1918	1919(x)
Holland	37.450	12,131	29.288	28,899	3,337	....	155,235
Great Britain	....	4,575	6,369	....	23,217	50,834	130,984
Other countries in Europe	15,398	16,875	254	6.500	....	1,500	6,199
Egypt	....	....	1,283	10,497	5,396	425	13,595
U. S. of America	2,581	4,823	....	2,836	26,385	40,796	59,244
British India	5,198	6,094	8,727	5,859	12,259	60,382	41,228
Singapore	4,829	5,302	2,500	10,759	6,456	23,288	4,352
Wladiwostok	....	....	3.500	7,200	....	....	....
China	641	669	15,095	9,456	15,311	9,449	6.465
Japan	4,798	8,342	11,786	14,327	24,912	25,908	42,617
Philippines	....	....	956	8,253	1,072	5,988	7,052
Australia	....	....	525	2.502	3.168	4,274	9.842
Various	1,612	3,153	2,586	8,087	8,377	29,792	11,576
Totals	72,507	61,964	82,869	115,175	129,890	252,636	488,389

(x) Ten months.



World's Production of Cinchona Bark in 1918

On account of war conditions and lack of shipping facilities to Europe, shipments have materially declined since the year 1916, but exports during the first ten months of 1919 already show a great increase as compared with those for the same period of the previous years.

The exports from the island of Sumatra are only small; they amounted for the years 1913-1918 to: 91 tons, 140 tons, 104 tons, 138 tons, 40 tons, and nihil.

Principal Markets

As long as the production of cinchona bark was confined to its native country, London, Paris, Hamburg and New York were the principal markets. In those days the product was obtained from the forest, and supplies, therefore, were small and irregular, while exorbitant prices were paid. The planting of cinchona in Asia changed the aspect of the trade entirely. Not only did Latin America lose the monopoly, but the market was also gradually transferred to other parts of the world.

As will be seen from the above table of exports, the product was, until 1916, nearly entirely shipped to Holland, and it is only during the last three years that the United States and Great Britain have become the greatest buyers.

Change in Sales Methods

Until July 1913 cinchona bark was in Amsterdam (Holland) sold by public auction, but the stability of supply and demand being disturbed and prices dropping lower and lower, the producers of Java barks called a conference with the buyers of the product, the owners of eight quinine factories in all, and proposed a reorganization of the trade. An agreement was reached, according to which the combined factories undertook to purchase the entire production of Java barks up to a specified quantity, which was to produce 525 tons of quinine sulphate, at a minimum price of 5 cents per unit (Netherlands currency). The quinine manufacturers had to apply to a central office in Amsterdam, ten times a year, and state their requirements.

Instead of the agreement of 1913, which ended on July 15, 1918, the quinine factory at Bandoeng (Java) and quinine manufacturers in Holland made a new agreement with the cinchona growers in Java, the British estates however, making a separate agreement with England and a few other small growers, who had sold their crops to Japan for some time to come. This new agreement, which is again made for 5 years, holds good till December 31, 1923.

Growers Share in the Agreement

Although the fundamental idea of the agreement remains the same as regards growers, yet the position of the latter has undergone a considerable change for the better. in as much as at present they also take their share in the fixing of the quinine prices.

Cinchona growers in Java have, with a few exceptions, made the new contract solely and exclusively with the Dutch quinine manufacturers, viz.: the Amsterdam Quinine Works, the Quinine Factory at Maarssen, and the Bandoeng factory. Manufacturers are bound to take in 751,000 kilogrammes of sulphate of quinine during the first year of contract, and 515,000 kilogrammes in each subsequent year. The purchasing of these factory barks takes place either in Holland or in Java, in yearly consignments of ten each year. Pharmaceutical barks are exempt from the agreement, but they may be sold by auction at Amsterdam, or privately in Java. The price per unit of sulphate of quinine must be higher than contemporary prices of factory barks.

Sorted and Dried Pharmaceutical Bark: Artificial Drying Plant in Center

The agreement, which contains more than two hundred articles, further regulates in detail the reduction in price to be granted on delivery of barks in Java to the Bandoeng factory or other friendly buyers; the authority of growers to ship "crudum" to Holland; in fact, all sorts of questions that may be raised at delivery, sampling and analysing of barks, besides holding several exceptional and transitional regulations for time of war.

Bandoeng Quinine Factory

As already stated above, Java also possesses a quinine factory, situated at Bandoeng in the Preanger district. The quantities of quinine salts exported by this plant during the last seven years are shown by the following table:—

Unit: 1,000 Kilogrammes

Countries to which Exported:	1913	1914	1915	1916	1917	1918	1919(x)
Holland	9,359	6,842	5,870	8,811	1,101	....	264
Great Britain	34	2	....	....	900	744	2,177
U. S. of America..	....	....	....	....	767	1,156	1,639
British India	....	....	....	....	....	18	221
Japan	....	....	3	34	29	415	307
Singapore	....	....	....	....	45	106	37
Totals	9,393	6,844	5,873	8,845	2,842	2,439	4,615

(x) Ten months.

The feature of this year's trade is the material increases in the exports to Great Britain, the U. S. A. and Japan. Shipments to the latter country have increased 10 times in 7 years. The table shows further that notwithstanding the unfavorable trade conditions prevailing during 1917 and 1918, the total exported quantities were far above those in previous years.

Wood Alcohol in Beverages*

By Joseph L. Mayer

*Read before the Kings County Pharmaceutical Society, Feb. 10, 1920, and contributed by the author.

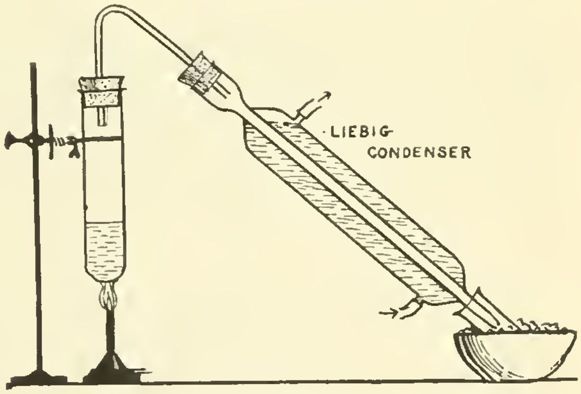
Complying with the request of the New York Health Commissioner, pharmacists are now dispensing whiskey on physicians' prescriptions and due to the number of deaths, which recently resulted from beverages containing wood alcohol, many inquiries are being made for a test to detect this dangerous adulterant.

The test for the detection of methyl in ethyl alcohol on page 36 of the United States Pharmacopoeia, which is practically that of Deniges, is not of much value when applied to beverages, etc., as sugar and glycerin in the distillate will give a weak reaction, indicating the presence of methyl alcohol, where none occurs.

The method which was official in the U.S.P. VIII (p. 34), oxidation of the liquid with a heated copper spiral, is that of Scudder and Mulliken[1] and is far from being dependable, due to the fact that as noted by Deghuee,[2] and others, ethyl alcohol will form traces of formaldehyde, if the oxidation is carried too far, and thus methyl alcohol might be indicated where none was added.

The suggestion of Sieker[3] to heat the alcoholic liquid, then use the heated copper spiral to oxidize the vapor above the liquid, and note whether there is produced an irritating vapor, which acts upon the mucous membrane and is characteristic of formaldehyde, would be satisfactory were it not for the fact that pure ethyl alcohol very frequently faintly responds to this test.

Without going any farther into the subject, suffice it to say that all of these copper spiral tests as now applied are unsatisfactory.



Skilled analysts recognizing this fact employ the Trillat Test,[4] that of Riche & Bardy[5] and the refractometric method of Leach and Lythegoe,[6] for the detection and determination of methyl alcohol in beverages, etc. These methods are thoroughly reliable, but are not suitable for the use of pharmacists, for even trained chemists regard them as tedious and time consuming.

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[1] A. Chem. J., 21, p. 266.

[2] U. S. Dept. of Ag., Bur. of Chem., Bul. 99, p. 53.

[3] Drug. Circ., March, 1901, p. 65.

[4] Analyst, 1899, pp. 13 and 200-212.

[5] Allen, "Commercial Organic Analysis," 3rd ed., Vol. I, p. 80.

[6] Jour. Am. Chem. Soc. 27, p. 964 (1905).

After a thorough trial of the numerous tests suggested for the detection of methyl alcohol in beverages, etc., I have adopted the following with excellent results. The method is in effect, that of Hinkel,[7] and is applied by me as follows:

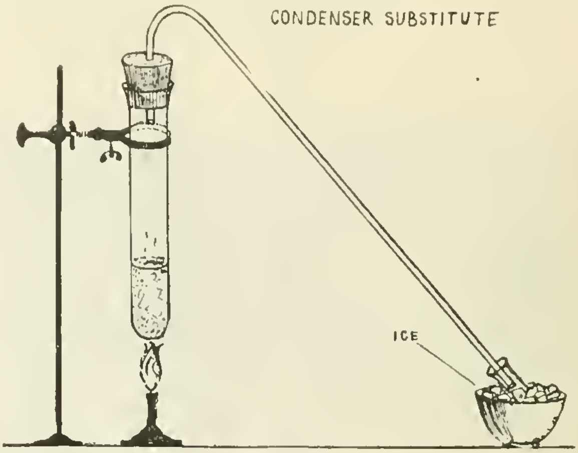
Into a test tube about 8 inches long and about one inch in diameter, capable of being connected to a Liebig condenser by means of a cork and bent tube, add a piece of pumice stone, which has previously been heated to a white heat and plunged into water, 1 mil of the suspected liquid, 0.800 gramme of ammonium persulphate, 3 mils of twenty per cent sulphuric acid, and 16 mils of water. Connect with the condenser and distil, heating carefully to preventing foaming. Reject the first four mils of distillate and then collect three succeeding portions of two mils each in four-inch test tubes. To each of these three portions add a few drops of a one per cent morphine sulphate solution, and after mixing thoroughly, carefully underlay with strong sulphuric acid, by carefully pouring the acid along the inner wall of the test tube to form a substratum. The presence of methyl alcohol in the material is indicated by the formation of a violet ring at the zone of contact in any or all of the three tubes. If the tubes are examined in bright daylight and held against a white background, such as a sheet of white paper, the coloration appears much sharper. If the violet ring does not appear at once, allow the tubes to stand about ten minutes, re-examine them, and, if necessary gently rotate them so as to form a slight admixture of the two layers. In the absence of methyl alcohol, there will be formed a light-brown or orange-colored ring at the zone of contact, which is due to the acetaldehyde formed by the oxidation of the ethyl alcohol.

This test, applied as above to various whiskeys, brandies, gins, wines, spirit of camphor, chloroform liniment, tincture of vanilla, essence of lemon, ethyl alcohol, and other substances known to be free from methyl alcohol, produced a negative result in every instance. One per cent of methyl alcohol was then added to each of the samples, which upon being subjected to the test yielded a very positive reaction.

In originally applying the test to samples of ethyl alcohol free from methyl alcohol, the first two mils of distillate always gave a faint rose-red reaction, and, as a result it was decided to reject the first four mils. The original method calls for a one-half of one per cent solution of morphine hydrochloride. For the sake of convenience, a one per cent solution of morphine sulphate is employed.

The test is dependent upon the fact that methyl alcohol is oxidized to formaldehyde, which is distilled over and then identified by the Marquis reaction, which is that official in the U. S. P. for the identification of morphine (U. S. P. p. 276). It was found that the employment of a small piece of pumice stone, previously heated to a white heat to keep it from floating, prevented bumping and permitted the liquid to distil quietly.

In view of the fact that very few pharmacists have access to a Liebig, or other form of a water jacketed condenser, I carried out a series of experiments to ascertain whether the test could be made without the use of such a condenser, by having the long arm (about 25 inches) of the bent tube extend into the test tube receiver, which was placed in water containing ice.



The three fractions of two mils each were tested, and in every case where a positive reaction was obtained by employing the Liebig condenser, an equally characteristic color was produced by this apparatus, thus indicating that if the water jacketed type of condenser is not at hand, the simple expedient of using a long glass tube is satisfactory.

The above method of testing for methyl alcohol in beverages and pharmaceuticals is trustworthy, easily applied and rapid.

VALUE OF MUSK EXPORTED FROM CHINA

In normal years exportation of musk from China averages in value upwards of $375,000. The European war and disturbed internal conditions in China have interfered with this trade. The musk is collected principally on the Tibetan-Chinese frontier The city of Tachienlu is credited with handling about 300,000 taels annually, says Consul General Sammons, of Shanghai, China, in a report to the Chamber of Commerce.

The chief point for the collection of musk on the Tibetan-Chinese border is the city of Tachienlu, which draws its supply from a wide area, the musk being brought in by hunters and traders, and by Chinese merchants or their representatives in the interior. This commodity, which is obtained from the male musk deer, is received in its original form in what is known as a pod—a small, contracted skin pouch, seldom larger than a walnut. A pod sometimes contains as much as 2 ounces of musk, but usually the amount is less than an ounce. From Tachienlu and other interior towns where it is collected the musk is shipped in the pod form to the coast during the cooler months of the year, as, due to the heat and moisture, it is likely to mold and spoil if shipped during the heated season.

The high value of musk offers a strong inducement for its extensive adulteration. In consequence of such adulteration, which is often most difficult to detect, it is considered a good average if, in a year's purchases, as much as 80 per cent of pure musk is obtained.

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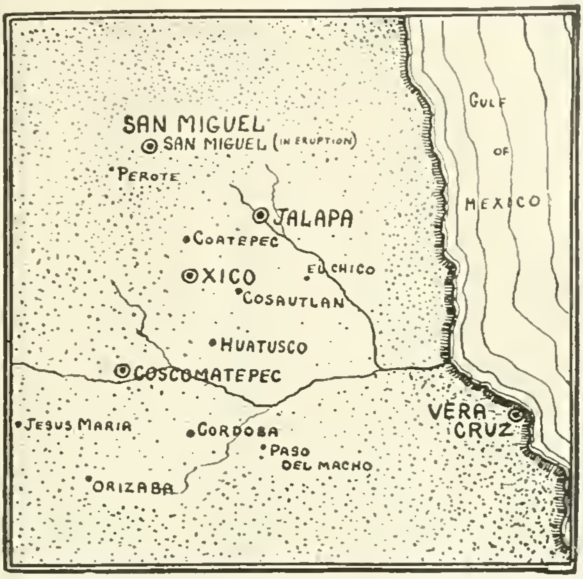
[7] Analyst, 33, p. 417.

Jalap Production in Mexico

Earthquake Visits Principal Growing District of Drug Known Since Spanish Discovery Days



Map of the region in the State of Vera Cruz, Mexico, from which comes practically the entire world's supply of Jalap. The industry is at a standstill owing to the recent eruption of San Miguel driving the natives out of the district.

RECENT commercial advices from Vera Cruz have conveyed the information that buyers of jalap root can look for an advance in the price, as the region in Mexico where the larger part of this valuable pharmaceutical product is gathered is within the earthquake district in the State of Vera Cruz. In the past there has been a scarcity of jalap root on account of the activity of rebels in the district and the limited protection given the laborers by the Carranza Government. Now, it appears, the earthquake of January 3, which destroyed whole villages, has caused a temporary cessation of activity in the industry. Hundreds of natives are without homes, and it is predicted that it will be months before the people will be in a position to resume work.

Home of the Jalap

The State of Vera Cruz embraces an area of nearly twenty-eight thousand square miles and borders on the Gulf of Mexico. The surface is very mountainous, the State being traversed by the range of the Sierra Madre, although on the coast is a level strip about thirty miles wide. Within the State is located the great mountain Orizaba, a volcano, one of the highest elevations in America. On the eastern coast of the State is situated the city and seaport of Vera Cruz, "the New City of the Real Cross," with a population representing many nationalities. Near the present city of Vera Cruz was planted the first Spanish settlement on the coast. Within the State, too, as in all Mexico, the differences in climate are very great, depending on the different degrees of altitude, while the vegetable products of the country have been said to include practically almost all that are found between the equator and the polar circle. In a few hours, the traveller may experience every graduation of climate, embracing torrid heat and glacial cold, and pass through different zones of vegetation, including wheat and the sugar cane, the ash and palm, apples, olives, and guavas. All Mexico is rich in latent possibilities for drug production, for it is the home not only of the *Ipomoea purga*, but also of a long list of vegetable products which have found a place in many of the pharmacopoeias of the world. Sarsaparilla, vanilla, capsicums, pepper, pimento, indigo, ipecacuanha and varieties of rubber are but a few of the drugs and related products, many of which await only the establishment of a stable government to become of greater commercial importance than they have ever achieved in the past.

Seismic disturbances are frequent in Mexico, but the recent earthquake was most disastrous to the district producing jalap. The mountain of San Miguel, shown on the accompanying map near the town of the same name, is in active eruption, smoke, lava and ashes covering the surrounding country. Scores of people are leaving the district. The principal towns from which any amount of jalap is shipped are San Miguel, Xico and Coscomatepec, all in the district where the greatest damage has been done and where most of the lives were lost.

The Plant Producing Jalap

The plant producing jalap, *Ipomoea purga*, is a perennial twining climber, bearing handsome rose-purple flowers similar to the cultivated morning glory. While it is found in greatest profusion in the district named, it is found quite generally along the eastern slopes of the Mexican Andes, flourishing at an elevation of from five thousand to eight thousand feet, where rain is very frequent and abundant. It derives its name from the city of Jalapa, in the State of Vera Cruz, in the neighborhood of which it grows, at a height of about six thousand feet above the sea level. Its habitat is thus very similar to that of cinchona.

The plant in growing gives off slender runners, which bear at intervals scaly cataphyllary leaves, in the axils of which buds develop producing fibrous roots. Some of these roots thicken and become tuberous; these are collected and dried, the larger ones being cut longitudinally to allow moisture to escape.

As followed by the natives, the preparation of jalap root for market is very simple. The tubercules, when gathered, are freed from earth and foreign matter, then hung up in a net over a wood fire kept constantly burning in the hut. As a consequence, the jalap acquires a smoky odor and flavor which is very persistent and frequently considered by many buyers to be confirmatory evidence of high grade jalap. When fresh, the root is black externally, white and milky within and varies in size according to its age from that of a walnut to that of a moderate sized turnip. It is often preyed upon by insects, which, however, leave its active part untouched. Such root is much used for the production of the resin of jalap, but, on account of its greater activity, should not be given internally except in smaller doses than those prescribed for the ordinary root.

Jalap Cultivated in Some Countries

Although indigenous to Mexico, jalap has been successfully cultivated in various parts of the world, particularly in India and Jamaica. Roots from these sources have never figured extensively in the New York market. In India, however, considerable quantities of the dried tubers produced from the cultivated plant in the Government cinchona plantations at Dodabetta, Nilgiris, have been supplied annually to the Madras market. The so-called "Brazilian jalap," the root of *Peptostegia Pisonis*, has been recommended as a cheap source of jalapin, the resin of the *Ipomoea purga* which is insoluble in ether. Before the war it was exported to Germany for this purpose, the resin content being nearly twice the value of Vera Cruz jalap.

Introduction of Jalap as a Medicine

Jalap appears to have been introduced into Britain as a medicine about 1609, and by reason of its cathartic qualities naturally became a favorite in Europe in the days of heroic medication. According to John Uri Lloyd ("History of Vegetable Drugs of the Pharmacopoeia," 1911), the early Spanish voyagers learned of its qualities from the natives of Mexico, and in the Sixteenth Century carried large quantities to Europe. Monardes, in 1565, mentions a cathartic under the name Mechoacan rhubarb, or root, which some believe to have been jalap, but this Flückiger discredits, because Colon, an apothecary of Lyons, in 1619, states that jalap was then newly brought to France. The same authority indicates that both drugs were well known in 1610, though often confused, one being known as "black mechoacan," and the other as "white jalap." It remained, however, for an American physician to determine the botanical source of jalap, this question being definitely settled by Dr. James Redman Coxe, one of the physicians of the Pennsylvania Hospital in Philadelphia, about the beginning of the last century, and author of the first American Dispensatory, a work which first appeared in 1806 and was continued in seven subsequent editions. This identification was made in 1829 from living plants sent to him from Mexico.

Jalap Substitutes

Among the substitutes for true jalap appearing in commerce are the roots of *I. simulans*, known as "Tampico jalap," and *I. orizabensis*, known as "Orizaba jalap." The former may be distinguished from the official drug by its irregular shape, convoluted surface, and absence of lenticels. It yields about 10 per cent of resin (tampicin), which is entirely soluble in ether, and said to be identical with the ether-soluble resin of the official jalap. Orizaba jalap, also known as "male" or "woody jalap," occurs mostly as transverse slices, 5 to 10 centimeters long, and 1.5 to 2 centimeters thick, or portions of slices of large roots, and shows concentric rings from which coarse fibers protrude; smaller roots may be 2.5 centimeters in diameter and 8 and 10 centimeters long. This drug contains about 17 or 18 per cent of resin which is soluble in ether and identical with the ether-soluble resin of true jalap. According to the United States Pharmacopoeia, true jalap should contain not less than 7 per cent of total resin, of which not more than 15 per cent should be soluble in ether.

Therapy and Preparations

The medicinal properties of jalap are well known, the drug being official in most of the Pharmacopoeias of the world. It is powerfully purgative, being listed in works on materia medica as a "hydragogue cathartic," producing copious watery evacuations, its action being ascribed to a resinous substance which consists of two portions, a soft resin, jalapin, soluble in ether, and a hard resin, constituting nine-tenths of the mixture, termed jalapurgin or convolvulin (a glucoside $C_{31}H_{50}O_{16}$), which latter is supposed to be the active principle (Sayre). The official preparations of jalap are compound cathartic pills (from the resin), compound powder of jalap, and resin of jalap, all U.S.P., and the extract, fluidextract, tincture, and compound tincture of the National Formulary.

As stated above, the principal point of exportation is Vera Cruz, the recent shipments being from the stocks stored in the warehouses of commission merchants in that city and in Cordoba. During the month of December, 1919, only 1,816 kilos of jalap root were shipped from Vera Cruz to the United States. While discouraging reports of future crop prospects continue to come from Mexico, where present conditions for growing jalap are most unfavorable, there seems to be a well-founded belief that the quantities of the drug in storage will be sufficient to meet all ordinary demands. It is usually imported in bags containing from one hundred to two hundred pounds of the root.

MUST CONTAIN NO WOOD ALCOHOL

Manufacturers, distributors and dealers in preparations containing alcohol which are not recognized in the United States Pharmacopoeia or the National Formulary must satisfy, by affidavit, the Pennsylvania State Department of Health that the preparations do not contain wood alcohol. Dr. Edward Martin, Commissioner of Health, in conjunction with the Pennsylvania Food Commissioner, the Pennsylvania Board of Pharmacy and the Attorney General's Department has placed an embargo on all non-official preparations containing alcohol unless the manufacturer, dealer or distributor of such preparations satisfies the authorities by affidavits that the preparations do not contain wood alcohol. This step has been taken because of the unusual condition arising in neighboring States from the sale and distribution of mixtures containing wood alcohol, which have been drunk as substitutes for whiskey and have caused a large number of deaths.

THE QUESTION BOX

The "How to Do It" Department

CONDUCTED BY PHARMACEUTICAL EXPERTS

For the benefit of ERA Subscribers

Sodium Phosphate and Alcohol

(G. P. K.)—"I am a subscriber to the Era and would like to ask a question regarding the following formula:

Glycerin	2 ounces
Alcohol	1 ounce
Sodium phosphate	4 ounces
Water	10 ounces

"I can not get the sodium phosphate to stay in solution after I add the alcohol. How can I keep the solution clear?"

According to the Pharmacopoeia, sodium phosphate requires 2.7 parts of water to dissolve it, a proportion which is about maintained when the salt is dissolved in the quantity of the water employed in the above formula. Sodium phosphate is insoluble in alcohol, and when the latter is added to the aqueous solution of sodium phosphate, the proportions of solvent are changed, so that more or less of the salt is thrown out of solution. The best way to overcome this difficulty would be to omit the alcohol altogether, while the addition of a little citric acid, as followed in the National Formulary process for compound solution of sodium phosphate would tend to prevent the formation of crystals on allowing the solution to stand. As a matter of fact, the formula given above is but a modification of the official compound solution.

Non-Alcoholic Flavoring Extracts

(N. M.)—Answering your inquiry, we would state that last year Azor Thurston, chemist of the Ohio Food and Drugs Department, reported that fixed oils of vegetable or animal origin, e.g., olive, cottonseed, and neutral lard oils could be used to replace alcohol in the manufacture of flavoring extracts, the fixed oils holding the flavor better than alcohol, and serving as shortening in baking. For a non-alcoholic extract of vanilla, take of vanilla or tonka beans, finely powdered, 100 grams, and fixed oils, 1000 grams. Heat on a waterbath for thirty minutes at 70 to 80° Co., then cool and strain through felt. If vanillin or coumarin is used, 2 to 2.5 per cent is soluble, more than ten times as much as when the beans are extracted.

Many of the paste type of flavoring extracts are made by emulsification with gum tragacanth, as in the following formula:

Vanillin	10 parts
Coumarin	1 part
Gum tragacanth	2 parts
Powdered sugar	2 parts
Glycerin,	
Water,	
Starch, of each, sufficient to make a paste.	

Triturate the vanillin and coumarin with the powdered sugar and glycerin, then add sufficient water to make a thick syrupy mixture. Dissolve the gum tragacanth in hot water after it has been softened by soaking in cold water for a few hours; evaporate the solution, if necessary, to a thick mucilage, add the vanillin mixture and stir in sufficient starch to make a paste of the desired consistency. For use in collapsible tubes.

Tanner's Bark

(O. W. D. Co.)—Dictionaries of plant synonyms and botanical reference works we have consulted fail to attach this name to any specific plant or part of a plant. In the leather industries, however, "tanner's bark" seems to be a general designation applied to any bark used in tanning, a usage that is confirmed by the larger dictionaries of the English language. Thus, the "Standard" lists "tanner's bark" as a synonym for "tan bark," which is defined as a "bark containing tannic acid in sufficient quantity to be useful in tanning leather, as the bark of the hemlock, oak, chestnut, etc." Webster's "International" gives practically the same definition, and refers to "tan bark oak which may denominate any oak yielding tan bark, but the name is more specifically applied to the Californian oak *Quercus densiflora*, or, in the Eastern United States, to the chestnut oak *Quercus prinus* or the quercitron."

Inquiry of those familiar with the trade phraseology of tanners confirms these dictionary definitions. As we have indicated, the identity of any particular plant or bark to which the name may be applied cannot be determined without some information as to its character or proposed uses, or an examination of the actual material so designated.

Bleaching and Dyeing Bone and Ivory

(M. M. F.)—Various formulas and methods have been suggested for bleaching and dyeing ivory, the following being recommended by a German authority; The goods to be treated are cleaned with benzene or ether, and placed in a bath of equal parts of hydrogen peroxide and water. The dyeing is then carried out in the following manner:

Having cleaned the goods as above, immerse them in a solution containing 10 grams of hydrochloric acid in 1 liter of water for two minutes, then take them out and wash. For red, 10 grams of magenta or rubine are dissolved in 3 liters of water, and treated with 100 grams of acetic acid. The goods are then placed in this solution at a temperature of 50°. After half an hour's digestion they are taken out and washed, and dried at a gentle heat. The following solutions may be used under similar conditions:

For red: 5 grams of eosin, erythrosin, eosin-scarlet, phloxine, "rose Bengale," or "erythrine" dissolved in 1 liter of water and treated with 2 grams of tartaric acid. For violet: 5 grams of methyl-violet or dahlia, dissolved in 1 liter of water and 3 grams of tartaric acid. For blue: 2 grams of methylene-blue or navy-blue. For green: 3 grams of new Victoria green or brilliant green, dissolved in 2 liters of water and 100 grams of acetic acid. For yellow: 8 grams of naphthol yellow S., dissolved in 2 liters of water and 300 grams of acetic acid. For black: 30 grams of soluble nigrosin, dissolved in 2 liters of water and treated with 300 grams of acetic acid.

For dyeing bone or ivory with other than aniline dyes, see the Era Formulary, page 322.

Carnauba Wax: Montan Wax

(A. M. I. Co.)—No one in this market seems to know of any wax under the name "carnaumontine wax," although it has been suggested that the word might be used to designate a mixture of carnauba and montan wax. A description of carnauba and other vegetable waxes may be found in the dispensatories. The following analytical data relating to carnauba wax may be of help: The wax is of a light yellow to a dirty green (or bleached white), having the odor of new mown hay on melting, and being very hard and brittle; sp. gr. at 15° C., 0.998; melting point, 84° C.; refractive index (40° C.), 67; iodine value, 2.5; saponification value, 80; acetyl value, 55; acid value, 2.5; unsaponifiable matter, 55. The commonest adulterants are said to be paraffin wax, ceresin and stearic acid. The two first-named increase the percentage of unsaponifiable matter, and the last-named, the acid value. The presence of Japan wax is determined by the percentage of glycerin yielded on saponification. Carnauba wax has found an extensive use in the manufacture of phonograph and gramophone records, cable coverings, wax varnishes, high-melting point candles, tailors' chalk, etc.

Montan wax is obtained from lignite (brown coal bitumen wax), the crude product having a brownish-black color, is hard and brittle, and breaking with a conchoidal fracture. According to Lewkowitsch, the crude wax is refined by three different patented processes, the method employed affecting somewhat the acid value and melting point of the particular sample. Thus the melting point, depending on the particular method employed in refining, varies from 72° to 84° C., while the acid value ranges from 73 to 85 (wax refined by the distillation process) to 15 to 20 (wax refined by treatment with sulphuric acid). Montan wax is used in the manufacture of polishes, as a substitute for carnauba wax, for insulating purposes, and in the manufacture of phonograph records.

Pirolinito; Pyrolignite of Iron

(W. R. G. Co.)—"Pirolinito" is a Spanish synonym for "iron liquor," an impure commercial acetate of iron, variously known in the dyeing and leather industries as "pyrolignite of iron, black liquor, dyer's acetate of iron," or simply "iron liquor," and used as a mordant in leather dyeing and in calico printing. It is usually prepared by one or other of the following methods; (1) Old scraps of iron are left in a cask of pyroligneous acid, occasional agitation being maintained until a sufficiently strong soluton is obtained. By keeping the solution moderately warm in suitable vessels it will become saturated with the iron in a few days. With cold acid, on a large scale, a considerably longer period is required to complete the process. (2) A solution of pyrolignite or crude acetate of lime is added to a solution of ferrous sulphate as long as a precipitate is formed; after allowing to stand for a time the clear liquor is decanted.

According to Villavechia ("Analytical Chemistry"), industrial use is made of pyrolignite of iron (crude ferrous acetate) solution, which is a greenish-black liquid of marked empyreumatic odor. This solution is usually of 12-15° Baumé, but stronger ones of 20-30° Baumé are also prepared, these containing more tarry matters which are precipitated on dilution. In analysis of pyrolignite of iron, the grade is first determined with an ordinary Baumé hydrometer. The color of the liquid and any precipitation of tarry substances is noted on diluting 1 volume of the solution with 250 volumes of water; when diluted with water in these proportions, the solution should show a fine blue coloration, which slowly changes to greenish and becomes opaque; it should not contain any large proportions of ferric salts or sulphates. The iron is determined by evaporating 1-2 grams to dryness, and then cautiously igniting and dissolving the residue in hydrochloric acid; the iron in this solution is then determined by precipitation with ammonia. The determination of acetic acid, and tests for sulphates, chlorides, etc., are performed by the usual analytical methods.

Preventing Deposition of Moisture on Glass

(H. M. L.)—The *Chemist and Druggist* of London recently answered an inquiry for a correspondent by stating that various mixtures of soap and glycerin are employed for the purpose of preventing the condensation of moisture on the screens and windows of motor cars, and also called attention to the use of the formula devised by one of the Research Committees in the United States for an "anti-dimming" preparation for gas respirator eye-pieces, which is as follows:

Sulphonated castor oil (85%)	100 parts
Sodium hydroxide	15 parts
Waterglass syrup	5 parts
Paraffin oil (heavy)	5 parts

The editor then goes on to say that the following two formulas are improvements on the above;

(1)

Sodium salt of 65% sulphonated rape oil containing 35% water	100 parts
Sodium hydroxide	20 parts
Waterglass syrup	5 parts
Glycerin	3 parts
"Marine" oil	3 parts

Dried to form a solid stick when compressed.

(2)

Potassium salt of 62% sulphonated cotton seed oil containing 38% water	100 parts
Sodium hydroxide	15 parts
Waterglass syrup	3 parts
Glycerin	3 parts
"Marine" oil	3 parts

Dried to form a solid stick when compressed.

The "marine" oil referred to is heavy paraffin oil. The surface of the glass is first polished until clean and dry, then a little of the composition applied, rubbed in with the hand, and polished off with a soft rag until the surface is clear.

Varnish for Confectionery, Chocolates, etc.

(O. W. D. Co.)—We have had no practical experience in preparing varnish for confectionery, chocolates, etc., and the best we can do is to give you the following formula taken from the Era Formulary, which has been recommended as furnishing a satisfactory process for a protective coating for confectionery:

Take half a pound or more of gum benzoin, put into a bottle and cover it with fourth proof alcohol; cork up tightly and let it digest for at least two weeks, shaking up once or twice a day, then pour off gently any quantity required for present use. It should be the thickness of thin syrup; if used too thick it is apt to appear in streaks on the work when dry; if too thick, dilute with alcohol. This varnish is perfectly harmless and fragrant, resembling somewhat the odor of vanilla. The mixture will keep for years, growing better with age. It is recommended for all kinds of chocolate work and candies, both pulled and clear, forming, when dry, a thin, glossy film or skin over the chocolates which prevents the access of moisture, and tends to keep the confections from becoming sticky.

The Progress of Pharmacy

Formaldehyde Color Reactions—

Solutions of a few centigrams of the following ten aromatic compounds in sulphuric acid give color reactions with 0.1% and 0.001% solutions of formaldehyde; Gallic acid gives a red-brown ring at the zone of contact of the liquids, and on shaking the tube a green liquid changing to grey-green is obtained. Tannic acid gives a red-brown ring, which on mixing the color is greenish-blue at the bottom, and subsequently brownish-red throughout. Pyrogallol gives a wine-red ring and red-brown liquid. The test is capable of detecting 0.00001% of formaldehyde. Salicylic acid gives a light-rose colored ring and solution. Catechol gives a violet-red ring and wine-red liquid, and resorcinol a wine-red ring and wine-red liquid. B-naphthol gives a violet-red ring, while the liquid becomes brownish black with green fluorescence, and similar colorations are obtained with benzonaphthol. Phenyl salicylate gives a carmine-red ring and a reddish-yellow liquid, becoming pink on dilution. Phenolphthalein does not form a ring, but gives an orange liquid changing to carmine-red when shaken. On dilution with water a carmine precipitate separates while the solution remains colorless.—(*Boll. Chim. Farm.* through *J. Soc. Chem. Ind.*)

Oil of Spike Lavender—

The high prices which are being paid for the flowers of the spike confirm the belief that higher quotations will rule for the essence. Where in previous years large quantities of essence were obtained, this year some growers do not even take the trouble to install their distilling apparatus, as the sale of the flowers gave them a handsome profit. So much of the flower has been sold, that many distillations have been obtained from the stems alone. An analysis of the essence obtained from this source shows the following characteristics; Specific gravity at 15° C., 0.915 to 0.918; rotation, —3° to —5°; esters (linalyl acetate), 3 to 6%; solubility in alcohol (70%), 1.8 to 2 volumes; solubility in alcohol (65%), practicably imperceptible or in 10 to 12 volumes; odor, strong. In short, the characteristics differ very little from those of the essence obtained from the whole plant, only the latter is more soluble in alcohol 65% and the odor is somewhat finer.—(*Perf. and Ess. Oil Record.*)

Chinese Ink—

Chinese ink is sometimes erroneously called "India ink." It is made of the lampblack of sesame, rapeseed, or wood oil, to which are added varnish and pork fat. This paste is then mixed with glue, musk, or Baroos camphor to scent it, and some gold leaf to give it a metallic lustre. It is pressed in carved wooden moulds, or beaten in wooden anvils with steel hammers, and then pressed into moulds. The best ink comes from wood oil lampblack, collected on the sides of a second earthen jar placed above the one in which the oil is slowly burnt. Anhui Province produces the best ink. There are many grades, the cheapest being produced from coarse soot and glue. China exported during 1917, 116,000 pounds of Chinese ink, valued at 73,000 taels; in 1918, 127,000 pounds, valued at 78,000 taels.—(*J. Roy. Soc. Arts* through *Pharm. Journ.*)

"Terra Alba"—

George E. Ewe states that undoubtedly this name originally was limited in its application to white clay, but this is not now the case. During the past three or four years a white non-setting calcium sulphate has been uniformly supplied upon orders for "terra alba." Previous to that time, either a white clay or a white non-setting calcium sulphate was supplied. For the purpose of uniformity, he says, it would be desirable for the heavy chemical trade to adopt a standard for "terra alba," or supply "terra alba" with qualifying statements as to its chemical nature.—(*Am. Jour. Pharm.*)

Preservation of Serums and Vaccines—

For the preservation of serums and vaccines it is not sufficient to dry these substances. They must also be kept free from the action of oxygen and moisture. Bordas advocates the use of small Arsonval-Dewar tubes, capable of holding 5-15 grams of the pulp dried in an absolute vacuum, the tube being sealed up prior to detachment from the pump. Such preparations may be safely sent to hot climates without any fear of losing their initial activity.—(*Comptes rend.* through *J. Soc. Chem. Ind.*)

The Dose of Camphor—

Cabannes is of the opinion that it is time the accepted posology of camphor should be revised. Camphor is widely prescribed in France. During the recent epidemic of influenza and pneumonia in that country its use has extended and its dose greatly increased. At one time the quantity given by injection of camphorated oil was limited to a maximum of 0.5 gram administered in several separate doses. Then surgeons increased the dose to 2 or 3 grams per diem in cases of threatened heart failure, and physicians continued to prescribe it widely and even in larger doses, up to 3 or even 4 or 5 grams in twenty-four hours. The normal single dose for an adult may be taken to be 0.5 to 1 gram, or 3 grams in twenty-four hours, which may be increased, if necessary. Consequently pharmacists may dispense, without hesitation, what were formerly considered to be excessive doses of sterilized camphorated oil for injection.—(*Rep. de Pharm.* through *Pharm. Journ.*)

Uses of Silica (Quartz)—

That ground quartz is used somewhat in tooth powders and by dentists is comparatively well known to pharmacists generally, but it is also extensively used for many purposes, principally in the manufacture of pottery, paints, and scouring soaps, as a wood filler, as a polisher, and in chemical and metallurgical processes. In the pottery industries, where it is generally called flint, silica is used in the body of the ware to diminish shrinkage, and is also used in glazes. For certain purposes finely ground crystalline material is superior in paints to other materials because of the angularity of the grains, which makes them adhere more firmly to the article painted and after wear affords a good surface for repainting. The same angularity makes artificially comminuted crystalline quartz superior to natural sand for use in wood fillers. For soaps and polishing powders ground material is preferred to natural sand on account of its whiteness and angularity. For all these purposes large quantities of pure quartz sand and sandstone are finely ground and yield a product fully equal to that obtained by grinding massive crystalline quartz. Quartz crushed and graded to various sizes is used in making sandpaper and sand belts as a scouring agent, for "frosting" glass with a sand-blast apparatus, and for other purposes. Blocks of massive quartz and quartzite are used in the chemical industry as a filler for acid towers and as a flux in copper smelting. Quartz amounting to 71,740 short tons, and valued at $259,330, was sold in 1918, a decrease in quantity of 50 per cent and in value of 18 per cent as compared with 1917. This falling off was due not only to curtailment of the consuming industries by the war, but also to the growing tendency to replace quartz from these sources by sand and sandstone.—(*Mineral Resources of the U. S.*)

Therapeutic Uses of Benzyl Benzoate—

E. Fullerton Cook refers to the extensive study of the action of the opium alkaloids by David I Macht, M.D., of the Pharmacologic Laboratory of Johns Hopkins University and the effort made in find a non-narcotic benzyl combination which would produce similar therapeutic action, resulting in the discovery of the esters benzyl acetate and benzyl benzoate. It was found that while the acetate was of equal therapeutic value it produced slight irritation upon the stomach; the benzoate has, therefore, been recommended for general trial. It is employed in dysentery, biliary, renal and uterine colic, in arterial spasms, as in asthma, in dysmenorrhoea and other excessive spasms of smooth muscles. Pharmaceutically, benzyl benzoate must be treated very much like an oil. Its dose is small, 2 to 5 minims, and it has been most largely administered in 20 per cent alcoholic solution containing 2 per cent of soap which makes a solution that is readily miscible with water. It has also been dissolved in fixed oil and dispensed in capsules. Dr. Litzenberg suggests the following prescription for its administration for dysmenorrhoea;

Benzyl benzoate	10 mils
Mucilage of acacia..........................	5 mils
Aromatic elixir of eriodictyon, to make..	50 mils

Give from one-half to two teaspoonfuls as necessary.—(*J. Am. Pharm. Assoc.*)

Testing Glassware—

Kroeber suggests the inclusion of tests for glassware in the next German Pharmacopoeia. The following rough test for soluble alkali is suggested; Place 10 Cc. of water in the vessel to be tested, add two to three drops of alcoholic phenolphthalein solution, and set aside for one hour. The solution should not show more than a bluish-rose color, and should not require over two or three drops of N/10 hydrochloric acid solution to discolor it. As a more sensitive test the following is advocated; The vessel to be tested is filled with a 0.1 per cent solution of narcotine hydrochloride and set aside at room temperature; medicine bottles should give no precipitate, or, at most, traces only of a flocculent precipitate within a quarter of an hour. Ampoules and measuring apparatus should not show more than traces of a flocculent precipitate in half an hour, and the precipitate should not increase at the end of a further half-hour.—(*Pharm. Zentralh*, through *Ch. & Dr.*)

Sapo Mollis, U.S.P.—

G. E'we reports that practically all of the many lots of this article examined were neutral or possessed a negligible acidity, whereas the U. S. P. requires an alkalinity equivalent to not less than 0.1 per cent potassium hydroxide. It seems impractical to meet the U.S.P. requirement of minimum alkalinity. The explanation offered by a soap manufacturer is that soft soap may be alkaline in great excess of the U.S.P. upper limit when first prepared because of incomplete saponification and later, gradually become neutral, due to completion of saponification.—(*Proceedings Pa. Ph.A.*)

Distinguishing Caffeine from Theobromine—

Stroup suggests the following test for distinguishing caffeine from theobromine, using as a reagent a solution prepared by dissolving 1 gram of potassium dichromate in 20 Cc. of concentrated sulphuric acid. Two drops of the test solution are added to a small portion of the alkaloid on a porcelain plate. The yellow color of the reagent, in the case of caffeine, changes almost immediately to bright bluish-green; with theobromine the color changes first to dark purple, then gradually to purple-green and olive green, and finally to the bluish-green tint produced by caffeine. He also states that the test may be carried out by adding the alkaloid to the test solution, but in this procedure the time required for the production of the bluish-green tint is very much less with caffeine than with theobromine.—(*Am. J. Pharm.*)

New Units of Measure—

A decree on new French units of measure has been recently promulgated. Among the new terms are the *sthene* (as a unit of force), the *pieze* (pressure), the *lux* and *phot* (light), and the *lumen* (luminous flux). The thermie is defined as "The amount of heat necessary to raise 1° C. the mass of one ton (1000 kilos) of any body of which the specific heat is equal to that of water at 15°" at normal atmospheric pressure. "The terms *grande caloric* and *petite caloric* may respectively be given to the millithermie (one-thousandth of a thermie) and the microthermie (one millionth)." In certain industries the quantity of heat extracted may be expressed in *frigories*, the *frigoric* being equal to the millithermie." Densities and alcoholic percentages are also dealt with.—(Paris Correspondence in *Ch. & Dr.*)

REVISION COMMITTEE WANTS CRITICISMS

The Revision Committee for the fourth revision of the National Formulary as appointed by the American Pharmaceutical Association consists of the following members; Chairman, Wilbur F. Scoville, Detroit, Mich.; vice-chairman, George M. Beringer, Camden, N. J.; secretary, Leonard A. Seltzer, Detroit; Harry V. Arny, New York; E. Fullerton Cook, Philadelphia; H. A. B. Dunning, Baltimore; H. Engelhardt, Baltimore; Bernard Fantus, Chicago; Oliver A. Farwell, Detroit; Samuel L. Hilton, Washington, D C.; Charles H. LaWall, Philadelphia; Edwin L. Newcomb, Minneapolis; Otto Raubenheimer, Brooklyn, N. Y.; Clyde M. Snow, Chicago. and P. Henry Utech, Meadville, Pa.

Preparatory to beginning active work on the revision, Chairman Scoville has sent out the following appeal addressed to all users of the National Formulary;

The Revision Committee for the fourth revision of the National Formulary has been appointed and desires to obtain your assistance in the revision.

We ask the co-operation of every chemist, pharmacist, biologist, physician, college of pharmacy, pharmaceutical journal, or others who use the book or its preparations, to make the next edition better and more useful.

We want your criticism and suggestions.

What formulas or preparations in the present N. F. have you found unsatisfactory? In what respects are they unsatisfactory? Have you any improvements to suggest for them?

What preparations do you think should be discontinued, and why? What should be added?

In what respects do you find the N. F. faulty or deficient? Have you any suggestions to make for improvements?

The Committee will appreciate criticisms from all sources, suggestions of all kinds, the help of the colleges and editors in arousing interest, and we will assure you of an attentive interest in every communication.

Please send criticisms or comments to the chairman,
WILBUR L. SCOVILLE,
P. O. Box 488, Detroit, Mich.

Credentials for U. S. P. C. 1920

Pharmaceutical and medical associations and schools, desiring blank credentials for the Convention of May 11, 1920, should write direct to Dr. Noble S. Barnes, Care of The Arlington, Washington, D. C., secretary of the committee on credentials. All applications for representation must be passed on by the committee on credentials.

H. M WHELPLEY,
Secretary, Board of Trustees.

O. W. LOWE REPORTED CAPTURED

Mrs. O. W. Lowe, the wife of the New York druggist and Red Cross worker reported to have been captured by the Bolsheviki at Kiuchinskaya station, Siberia, said recently at their home, 262 West Seventy-seventh Street, that the last letter which she had received from her husband was postmarked at Irkutsk on Oct. 29, 1919. Announcement of Mr. Lowe's reported capture by the Reds appeared recently in "Drug Trade Weekly."

Otto W. Lowe, *Red Cross Pharmacist, Reported Captured by Reds.*

The letter stated that the detachment of Red Cross doctors and pharmacists, of which Mr. Lowe was a member, was en route to Omsk under the guard of American soldiers, and continued: "We know nothing of the political situation in the interior of Siberia or of what is before us. Don't be surprised if you don't hear from me again for six months."

Mr. Lowe, who is forty-nine years old, was born in Virginia, educated as a chemist in Kansas, and came to New York about twenty-seven years ago. For many years he was proprietor of the drug store at Broadway and Eighty-first Street, but retired in 1913 on account of ill health.

When America entered the war, and his only son joined the colors with the 58th Coast Artillery, he tried to enlist in the army. Twice he was rejected as not meeting the physical requirements, but the third time he was accepted, and was only prevented from seeing service overseas by the coming of the armistice.

Last spring Mr. Lowe volunteered to go to Siberia with the Red Cross, and was given a commission as first lieutenant in that organization. He left New York on June 8 and proceeded via San Francisco to Yokohama, where the detachment was held for three weeks because of conditions in Siberia, and only the men of the party were finally allowed to proceed.

Lowe's son, Graham Lowe, is twenty-two years old, and is employed by a cotton trade journal. Graham saw more than a year's service as a radio sergeant in France.

Prof. F. J. Wulling, dean of the College of Pharmacy, University of Minnesota, has been prominently mentioned as the possible successor of Dr. Burton, president of the institution, the latter having resigned to become president of the University of Michigan. Prof. Wulling has been dean of the College of Pharmacy since its organization in 1892, and has served as president of the American Pharmaceutical Association. The St. Paul Retail Druggists' Association recently adopted resolutions commendatory of Prof. Wulling's work.

Dr. H. M. Whelpley recently delivered a lecture under the auspices of the Alumni Association of the St. Louis College of Pharmacy on "The Indian as an Art Subject." He is widely known as an authority on Indian archeology.

S. W. FAIRCHILD A CHEVALIER

Samuel W. Fairchild, former president of the New York College of Pharmacy, and vice-president of Fairchild Brothers & Foster, New York, well-known manufacturers of digestive ferments and other pharmaceuticals, was the recipient of a luncheon given in his honor at the Hotel Plaza recently by Maurice Casenave, Minister Plenipotentiary and Director General of the French Services in the United States, who also took the opportunity to confer upon Mr. Fairchild the decoration of a Chevalier of the Legion of Honor, recently received from the French Government.

S. W. Fairchild

Mr. Fairchild was one of a commission of American business men formed under the auspices of the American Manufacturers' Export Association to make a scientific study of industrial conditions rising out of the World War. The commission sailed on Aug. 26, 1916, and had the official sanction of France and the United States, its principal object being to make a careful survey of industry in France in an effort to determine in what manner the merchants of this country could best aid France at the conclusion of the war.

That the efforts of the commission have been appreciated by the representatives of industry in both countries since the close of war, is now apparent. Mr. Fairchild's selection as a member of the commission was a recognition of his ability and achievements in his profession and in the manufacturing world. He graduated from the Philadelphia College of Pharmacy in 1873, receiving his degree of Master of Pharmacy in 1898 for having "attained distinction in the art of preparing drugs and medicines." Among other things to his credit has been his successful work in connection with pharmaceutical education in founding the Fairchild scholarship in the school of the Pharmaceutical Society of Great Britain and a similar scholarship in this country. As president of the Union League Club of New York he has been in the forefront of metropolitan social and business life, his record taken as a whole being probably without a parallel among pharmacists.

PRACTICAL PHARMACY PAPERS WANTED

Editor, Pharmaceutical Era:

The Section on Practical Pharmacy and Dispensing of the American Pharmaceutical Association is endeavoring to make its programme for the May Convention Meeting at Washington unusually attractive and valuable. Will you not assist us by affording us an opportunity to call attention to the fact that contributors to the Section must get their papers in earlier in the year than usual?

In order to get titles and a brief abstract of the papers submitted to the general secretary in time for publication in the main programme, it will be quite necessary to have these facts at our disposal early in April.

We also take this opportunity of stating that we will welcome practical papers for presentation at our sessions.

Ivor Griffith,
Secretary.

Philadelphia, Feb. 10, 1920.

Books Reviewed

CHEMISTRY AND ITS MYSTERIES. The story of what things are made of, told in simple language. By Charles R. Gibson, F.R.S.E.; author of "The Stars and Their Mysteries;" "The Great Ball on Which We Live," etc. 41 illustrations. 12 mo., 246 pages, cloth. Philadelphia, J. B. Lippincott Company.

This volume, which is the fifth in a "Science for Children Series" issued by these publishers, is an attempt to interest boys and girls in the subject of chemistry by showing them in a simple manner the inner meaning of things. Chemical change is likened to the children's game of "General Post." The children form imaginary dances to represent the construction of atoms, and many interesting experiments are carried out in imagination, avoiding the children handling the chemicals.

Chemistry, the author tells his young readers, is called the Cinderella of Science, because its beauties and charms are not recognized, and because, although it is doing much useful work, many people pay no attention to it. The wonderful changes taking place in things all around us, and concerning which chemistry tells us, are likened to the remarkable transformation of Cinderella's ragged dress into a charming dress of gold and silver, ornamented with precious stones. Chemistry tells us of what the air is made, of the constitution of water, what happens when coal burns in our fireplaces, of the preparation of medicines, and of the wonderful things which are happening within our own bodies.

In each of the sixteen chapters, the author has a pertinent story to tell the children of some interesting chemical fact, each of which is described and compared with some demonstration, or is illustrated by an allusion to some tale or performance which brings an understanding of the fact or change within the comprehension of the young. The author believes that because of his or her imagination, the child makes an ideal scientist, and after perusing his book we are inclined to agree with him. Written in an easily understandable style, it is sure to appeal to the average youngster, and many older individuals as well.

DIGEST OF COMMENTS ON THE PHARMACOPOEIA of the United States of America and on the National Formulary for the year ending December 31, 1915. 8 vo., 452 pages. Washington, Government Printing Office.

DIGEST OF COMMENTS ON THE PHARMACOPOEIA of the United States of America and on the National Formulary for the year ending December 31, 1916. 8 vo , 312 pages. Washington, Government Printing Office.

These are bulletins Nos. 118 and 119, respectively, of the Hygienic Laboratory of the United States Public Health Service, prepared in the main by A. G. Du Mez, presenting abstracts from medical, pharmaceutical and chemical literature of the years named relating to pharmacopoeial subjects. Part of the first bulletin was compiled by the late Martin I. Wilbert, his death causing an interruption in the work for about eight months before compilation was again taken up by Dr. Du Mez. These volumes contain a fewer number of pages than most of the preceding numbers of the series, owing to the fact that some of the foreign journals heretofore abstracted had either suspended or were not available for abstracting during the war. Taken in their entirety, the comments presented tend to show users of the Pharmacopoeia and National Formulary that the Revision Committees of both of those books did their work well.

One point the compiler brings out is that the continuance of the war in Europe has brought home to the American pharmacist the desirability of becoming independent of Europe in the matter of securing his supplies of drugs and medicines. As a consequence, the cultivation of medicinal plants in the United States has received added attention in our schools of pharmacy as well as in the commercial world. For this reason special consideration has been given to abstracts pertaining to the cultivation and collection of drugs in the bulletin for the year 1916.

Pamphlets Received

From the Wellcome Physiological Research Laboratories, Herne Hill, London, England, the following pamphlets; "The Action of Certain Esters and Ethers of Choline, and their Relation to Muscarine," by H. H. Dale, M.D., F.R.S., reprinted from the *Journal of Pharmacology and Experimental Therapeutics;* "The Alkaloids of Quebracho Bark. Part I, The Constitution of Aspidospermine," by Arthur James Ewins, D.Sc., reprinted from the Transactions of the Chemical Society.

PLAN TO SAVE CHEMICAL WASTES

The American Chemical Society announces that a company which produces ammonia by the fixation of nitrogen from the air will exchange its unused substances for materials rejected in the manufacture of soda. By the Haber process, a German method, the patents on which were taken over by the Chemical Foundation, Inc., ammonia can be obtained on a large scale from atmospheric nitrogen. The chief item of expense in this process is the cost of obtaining and purifying the hydrogen needed to bring about the necessary reactions, as a large bulk of material must be handled to get it. Thus, eleven tons of carbonic acid gas or carbon dioxide, such as is used in the charging of soda water fountains, are obtained for every ton of pure hydrogen. This carbon dioxide was permitted to escape into the air.

On the other hand, the manufacturers of soda and its compounds need carbon dioxide in vast quantities. They have been burning up hundreds of carloads of coal and limestone to get that which the corporations making ammonia by the fixation of nitrogen were sending adrift upon the winds. Under the new agreements, the soda manufacturers take over the carbon dioxide from the ammonia plants.

In the manufacture of soda, much lime or calcium oxide and chlorine were required. There has always been a great waste of the calcium chloride which is left as a residue. This sludge, as it is called, has been puzzling the chemical economists for years. Under the new arrangement, sludge will not be produced. Instead, the plants engaged in nitrogen and ammonia operations will be getting ammonia in a form suitable for direct application to the soil as a fertilizer, for the ammonium chloride obtained under the new methods is a valuable and highly concentrated nitrogen product It is considered as good as the ammonium sulphate obtained by the treating of ammonia with sulphuric acid

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Dr. A. S. Loevenhart, professor of pharmacology and toxicology in the University of Wisconsin, Madison, was elected president of the National Pharmacological Society at the annual convention of the federated American societies for experimental biology, recently held in Cleveland.

Dr. Edgar F. Smith has tendered his resignation as provost and Blanchard professor of chemistry in the University of Pennsylvania, the resignation to take effect at the close of the present college year. Dr. Smith's connection with the University of Pennsylvania began in 1876, and except for the period between 1881 and 1888, when he was at other colleges, he had been continuously with Pennsylvania. His works on chemistry are well known to chemists and pharmacists throughout the country.

Professional & Trade Associations

C. H. PACKARD HEADS A.Ph.A.

Board of Canvassers Complete Count of Votes Cast by Mail in Election Held Last December and Announce Names of Officers to Be Installed in May

C. H. Packard

The ballots of the members cast by mail during the closing month of last year for the election of officers of the American Pharmaceutical Association for 1920-1921 have just been counted by the Board of Canvassers of that organization which met for the purpose in Chicago. The following officers were elected:

President, Charles Herbert Packard, Boston, Mass.; first vice-president, E. Fullerton Cook, Philadelphia, Pa.; second vice-president, Charles E. Caspari, St. Louis, Mo.; third vice-president, W. P. Porterfield, Fargo, N. Dak. Members of the Council—Harry B. Mason, Detroit, Mich.; Lucius E. Sayre, Lawrence, Kan.; Frederick J. Wulling, Minneapolis, Minn.

The Board of Canvassers included the following members, all of whom are residents of Chicago: Irwin A. Becker, Clyde M. Snow, William Gray, E. N. Gathercoal and A. H. Clark.

President-elect Packard, who will be installed at the annual meeting of the association to be held in Washington in May, is widely known to the drug trade throughout the country. He was born in Amherst, Mass., in 1863, and was educated in the public schools of Boston and Ames Academy. He entered the drug business in 1880, and graduated from the Massachusetts College of Pharmacy in 1892. Since 1909 he has been president of his alma mater. He owns and conducts two successful pharmacies in Boston, and has been for many years active in pharmaceutical and municipal affairs. He has been prominent in A.Ph.A work, having served as the first president of the Boston Branch, local secretary at the Boston meeting in 1911 and vice-president of the parent organization two different terms. He was president of the Massachusetts Ph.A. in 1907.

RHODE ISLAND

Reports of the various officers and committees presented at the annual meeting of the Rhode Island Pharmaceutical Association held at Providence on Jan. 16, showed that the organization was in a prosperous cndition. William Iventasct, Pawtucket; William E. Malone, Providence, and Kenneth O. Bliss, also of Providence, were elected to membership. A bouquet of flowers was sent to Past-president John E. Groff, who was unable to be present on account of illness.

The following officers were elected; President, Earl H. Mason, Providence; vice-president, James P. McDonald, Providence; secretary, Owen E. Barrett, Providence; treasurer, Frank R. Keighley, Arlington; executive committee, Byron A. Smith, Providence, and Max W. Saugy, Warren.

ACTS ON A.Ph.A. RECOMMENDATIONS

Executive Committee of Council Meets in St. Louis, Discusses Addresses of Former Presidents and Adopts Report on Pharmaceutical Research Endowment

Following instructions of the parent organization, the Executive Committee of the Council of the American Pharmaceutical Association met in St. Louis at the Planters' Hotel on Jan. 31 and Feb. 1 to consider the presidential addresses delivered before the association for the past ten years and to take steps to carry out the recommendations made therein, excepting, of course, such recommendations as are no longer pertinent or are of no present importance or value. All members of the committee were present, as follows: Lewis C. Hopp, Cleveland, Ohio, chairman; J. W. England, Philadelphia, secretary; J. H. Beal, Urbana, Ill.; G. M. Beringer, Camden, N. J.; L. E. Sayre, Lawrence, Kan.; H. M. Whelpley, St. Louis, Mo.; W. B. Day, Chicago, Ill., and E. G. Eberle, Philadelphia. Also attending the meeting were Ex-president LaWall, Philadelphia, F. W. Meissner, La Porte, Ind., and a number of members of the St. Louis branch of the A.Ph.A.

General Secretary W. B. Day presented the recommendations, 169 in number, in abstract. Many of them had been adopted, others duplicated, and some were of no present importance. They were considered seriatim.

A recommendation of President Oldberg, referring to the annual address of the president, would require that officer to present an address embodying general scientific facts and events of the year. He recommended that the president should have the alternative of discussing questions bearing on the affairs of the association. The Executive Committee recommended to the Council that the by-laws should be amended to carry this recommendation into effect.

The recommendation of President Rusby, made 1910, providing that retiring presidents of the association shall become members of the Council, is one that has been repeatedly suggested. The Executive Committee owing to the fact that its membership consists almost entirely of ex-presidents, decided to refer the recommendation to the general session of the association, and if approved the by-laws should be accordingly amended.

With reference to the recommendation of President Eberle in 1911 relating to improvement of association work, programmes, resolutions, etc., suggesting topics for State association programmes, the Executive Committee recommended that the executive committee should outline each year special problems for the association, and that the local branches should discuss the same and take appropriate action. Members of the Executive Committee are to suggest topics and questions and the Secretary is to submit these to the members for selection by vote. The selected list is then to be sent to the president and secretary of each State association and local branch, and these officers are to be asked to report on the action taken in relation thereto.

A number of the presidents recommended changes in the method of nomination and election of officers. Inasmuch as there is now a Special Committee on Nominations appointed by the association, the Executive Committee advised that all recommendations relative to the matter of nominating and electing officers be referred to that committee.

Report on Research Endowment Fund

Relative to an endowment fund for pharmaceutical research presented in the address of President Beringer (1914), a committee was appointed to consider the advisability of establishing an American Pharmaceutical Research Endowment, by inviting the various national organizations interested in pharmacy and the drug and chemical trades to contribute to this fund and to be represented in its management by a Board of Trustees consisting of one trustee from each of the contributing organizations. The following committee was appointed: J. H. Beal, G. M. Beringer and L. E. Sayre. They presented the following report, which was adopted after due consideration:

While much has already been accomplished toward increasing our knowledge of remedial agents, the possibilities of scientific research in pharmacy have scarcely been touched. Innumerable drug and chemical substances used as remedial agents await investigation. Our knowledge regarding the sources, constituents, composition and pharmacological actions of a very few medicinal substances is complete and the advances in medicine, chemistry and the allied sciences are continuously opening up to pharmacy new subjects and a vast domain of research that is distinct from the specialized fields preoccupied by medical and chemical research foundations.

The systematic investigation of the processes of pharmacy; the composition and constituents of drugs and chemicals, their extraction, estimation, standardization and therapeutic applications, are some of the avenues open to pure pharmaceutical research in collaboration with collateral research.

To promulgate, systematize and co-ordinate scientific research in the special fields open to pharmacy, so that study and investigation may be encouraged in the most efficient manner, and the greatest volume of scientific information may be collated and applied with the greatest benefit to the welfare and progress of the world, the establishment of the American Pharmaceutical Research Endowment is urged.

The broad field of investigation that it is contemplated to cover by this Research Endowment will necessarily require proportionately large sums of money for its establishment and permanent maintenance. All national pharmaceutical, drug and chemical organizations should be invited to participate in the endowment.

It is proposed that the control and management of the endowment shall be vested in a Board of Trustees to be composed of one representative from each of the national organizations joining in the incorporation of the endowment. Contributions, donations and bequests to this endowment are likewise to be solicited from corporations, firms and individuals who shall be allowed also to suggest topics for investigation, or to make special contributions to establish professional chairs, fellowships or donations to be directed toward any particular subject of investigation.

The Board of Trustees should have the power to invest and reinvest the moneys and securities of the endowment; to frame all rules and regulations for the protection and application of the funds; to elect a director of research and such assistants as may be needed; to organize and maintain a corps of special students, investigators, clerks and helpers as may be required and to acquire, purchase, build or rent such offices, buildings and equipment as they may deem necessary to perform the work and duties appertaining to this endowment.

Favors Advancing Membership Dues

The matter of referendum vote, and other questions relative to the annual dues, and presented in President LaWall's address, transactions of various branches, etc., received much consideration, and after due deliberation the Executive Committee recommended to the Council that the annual dues should be increased from $5.00 to $7.50 and that the by-laws should be amended accordingly. The committee was of the opinion that this advance in dues should be made because the purchasing power of the dollar is approximately only one-half of its pre-war status, and no organization can continue to do its full work on the pre-war scale of prices. The advance proposed the committee deemed preferable to curtailing any of the service features of the association.

The Executive Committee recommended that beginning with 1921, a rebate or share of the annual dues should be made each year to each local branch of $1.00 per dues paid member per year, with the maximum of $200 for any one branch; also that beginning with 1921 the association should discontinue the custom of granting a commission of $1.00 for each new member secured by local branches. The committee recommended to the Council that the certificates of membership should be discontinued except those to be given to life members and that the by-laws be amended accordingly.

The suggestion of a text-book on commercial pharmacy, made by E. Fullerton Cook in his annual address as Chairman of the Section on Commercial Interests for 1918-1919, and referred to the Executive Committee at its coming meeting for report to the Council, was discussed, the consensus of opinion of the Executive Committee being that the publication of the text-book proposed should be left to individual initiative.

It was recommended that a department of commercial pharmacy should be established in the "Journal of the A.Ph.A." for one year, the department to be a symposium of articles on commercial pharmacy, past and present, and to be edited by a Special Committee with Prof. E. Fullerton Cook as chairman. The committee also recommended to the Council that the treasurer of the A.Ph.A. should continue to submit an annual financial report in full detail to the association, which should be published in the Year Book, and that a summary only should be published in the Journal.

PITTSBURGH BRANCH

Members present at the January meeting of the Pittsburgh branch of the A.Ph.A. listened to the reading of a communication from Jos. W. England, secretary of the Council of the parent association, requesting a list of the dues paid members of the branch, and suggesting that the members submit a number of topics as material for discussion by the various branches. A. E. Baier, chairman of the committee to secure the membership of returned soldiers and sailors in the A.Ph.A. reported progress, stating that the original supply of blank applications was exhausted, and that the fifty additional blanks recently received would be signed up in a short time.

President L. K. Darbaker presented an interesting and instructive paper on "Vinegar Bees" and their method of producing vinegar. Sample jars in which these organisms were at work were exhibited and attracted much interest on account of their novelty. Dr. M. J. Wurdack gave a black board demonstration of the action of acids on various metals.

B. E. Pritchard presented a paper entitled "Chemistry and the World War," which consisted of extracts from the report of the special Senate Committee on the work of the Alien Property Custodian, the following quotations being of particular interest:

"Dr. Albert and Bernstorff reported to their government that America could never establish the dye and pharmaceutical industry in this country as we lacked the moral power for the creation of such an industry; that here each party pursued its own selfish interests, but nobody kept the whole in mind; that the problem could only be solved through regard for all points of view, and that the conflicting selfishness of this country rendered the solution impossible." And again; "After the armistice airships flew over the sea; and during the same week that those ships flew between England and America, the Department of the Interior exhibited a little vial of a new gas that they discovered but had not put into the war, and it was asserted by our army officials that five airplanes could carry over New York enough gas in one night to annihilate the five million inhabitants of that city. Where are we going to get any protection from such gas in the future?"

CHICAGO BRANCH

The annual meeting of the Chicago Branch of the A. Ph. A., held at the College of Pharmacy was well attended, notwithstanding the exceedingly stormy night. According to the secretary's annual report, eight meetings were held during 1919, the average attendance being fifty-five. The membership had increased from 204 at the beginning of 1919 to 228 regular and 82 soldier and sailor members, and the branch was in a healthy financial condition.

The following officers were elected for the ensuing year; President A. H. Clark; 1st vice-president, Forrest O. Snyder; 2nd vice-president, Stanley C. Clarke; 3rd vice-president, Amanda S. Druehl; secretary-treasurer, E. N. Gathercoal; Committee chairmen: Membership, E. Paul Gibney; Legislation, James H. Wells; Practice, I. A. Becker; Medical Relations, Dr. Bernard Fantus; Publicity, Samuel C. Henry.

E. H. Woodhams, superintendent of the A. M. Todd Co., mint farms, delivered an address in which he discussed the growing and distillation of peppermint and spearmint, as also the cultivation on a large scale of henbane and belladonna. In his introductory remarks Mr. Woodhams traced the development of mint-growing in Europe, especially in certain districts in England, of which Mitcham is the most famous. In the early part of the last century, mint growing was introduced into Wayne county, N. Y., which district for more than forty years produced all of the mint distilled in the United States.

Just fifty years ago, A. M. Todd undertook the cultivation of mint near Kalamazoo, Mich., being impressed with the idea that mint could be grown on the black muck soils of that region as well as on the hard upland soils that had been previously used for mint cultivation. His efforts in this direction were strikingly successful, and now a few counties in southwestern Michigan and Northwestern Indiana produce 90 per cent of the true peppermint and spearmint oils of the world. It is true that American mint oil seems not to quite equal in delicacy of flavor and bouquet the prepared Mitcham oils which command the highest price of any of the peppermint oils of the world.

Mr. Woodhams discussed the Japanese mint industry and showed that the oil from the Japanese plant (*Mentha arvensis*), while very rich in menthol, does not in any sense equal the American or English oils for flavoring purposes. No commercial menthol is separated from American or British oils, but it is obtained entirely from Japanese oil. The dementholized Japanese oil of peppermint is used to some extent as an adulterant of American or English oil, especially during the present period of high prices. Mr. Woodhams showed many pictures illustrating the planting, growing and cutting of mint as carried out on the great mint fields, and finally, the distillation of the oil in the immense stills provided for the purpose.

Another phase of Mr. Woodhams' lecture related to the raising and drying of henbane and belladonna, which was illustrated by many views. While this phase of the industry was started in an experimental way in 1911, and although the company produced very large amounts of these two important drugs during the war, the drug industry, he stated was still considered a side line with his company. A large drug building has been erected with a steam kiln containing the equivalent of an acre of drying trays, and facilities for stripping, sorting and packing these drugs. The crop of these two drugs for the past two years was very good. Many pictures of large fields of henbane under cultivation and in bloom were shown.

DISCUSS PHARMACOPOEIAL CHANGES

A symposium on the subject of changes in the new United States Pharmacopoeia was held by the New York Branch of the American Pharmaceutical Association at the New York College of Pharmacy on Monday evening, Feb. 2.

H. V. Arny, member of the U. S. P. Revision Committee and chairman of the Special Committee on Inorganic Chemicals discussed "General Aspects of Pharmacopoeial Revision."

Henry H. Rusby, member of the U. S. P. Revision Committee and chairman of the Special Committee on Nomenclature, spoke on "Suggestions for the Forthcoming Revision of the U. S. P., with Special Reference to Vegetable Drugs."

Robert R. Gerstner, of the Oil Products Co., took as his topic, "Suggestions for the New Pharmacopoeia, with Special Reference to Petroleum Products."

VERMONT DRUGGISTS HOLD MEETING

Montpelier, Vt., Feb. 23.—Forty or more members of the Vermont State Pharmaceutical Association were in attendance at the mid-winter meeting of the association held in this city.

The principal speaker was Eugene C. Brokmeyer, of Washington, D. C., general attorney of the National Association of Retail Druggists, who spoke on the Harrison narcotic and prohibition laws, the explanations of both laws being listened to with a great interest by the druggists.

In respect to the Harrison law, Mr. Brokmeyer told about the regulations for its enforcement. He gave a history of the act and how it came into being through treaty. He said:

"The purpose of the law is not to prohibit the use of habit-forming drugs but to prohibit the abuse of such drugs." He brought out that the regulations were burdensome to the druggists and costly to the public but that if the public does not like the cost of high medicines the public can demand that Congress repeal the law.

The committee on resolutions consisting of W. R. Warner, of Vergennes, M. G. Bebee, of Burlington, and D. F. Davis, of Ludlow, made reports.

F. D. Pierce, of Barton, president of the association, presided. J. P. Lambert is secretary and W. E. Terrill, treasurer.

Drug Manufacturers to Meet April 12-15

The American Drug Manufacturers Association will hold its annual convention in New York April 12 to 15. The convention of 1919 was held in March, but many members found it impossible to attend the meeting before April, this year, and the date was postponed.

ARMY AND NAVY PHARMACISTS

Surgeon General Ireland Favors a Pharmaceutical Section in Medical Service Corps and a Three-Year Enlistment as Prerequisite for Commissions

E. Fullerton Cook, secretary of the National Pharmaceutical Service Association, has had the opportunity on several occasions recently to confer with Surgeon General Ireland of the Army and Surgeon General Braisted of the Navy, concerning the details of the proposed pharmaceutical work in the reorganized military service. According to Prof. Cook, the Army situation appears to be well in hand, with indications for the Navy not so favorable. Pharmacists are urged to write to their Congressmen to support the Darrow bill. Prof. Cook's report is as follows:

"It is gratifying to learn that Dr. Ireland's plan for a Medical Service Córps, which is to assume work which is not strictly medical, but connected with the medical corps, has met with the approval of both the Committees of the House and the Senate, and of the General Staff of the Army, and is incorporated as a part of the new Army bill about to be submitted to Congress. It will be remembered that Dr. Ireland agreed to have a *pharmaceutical section* in this Medical Service Corps, in which a limited number of pharmacists would be commissioned. This favorable status for the proposed Service Corps practically assures its enactment into law, and in the establishment, for the first time, of proper pharmaceutical representation in the United States Army The original suggestion of Dr. Ireland that a five-year enlistment period be the pre-requisite for securing commissions, was criticised by many pharmacists, and it was pointed out that those men who were best competent to administer the activities of such a corps, would never be willing to serve as a private for five years to secure the commission.

"In the recent conference with Dr. Ireland and Colonel Darnall, these facts were pointed out and were appreciated by the Surgeon General, and it was agreed that modifications would be asked for in the bill establishing the Medical Service Corps. The suggested modifications consist first of the change of the five-year enlistment to three years as a pre-requisite for commissions. Secondly, a recognition by the Surgeon-General's office of previous military training, or suitable technical training, as a part of this three-year enlistment. In other words, a commission to be granted in less time than three years, if the training previously received justified such appointment. Under similar rules in the Navy, commissions have been earned in a short time by men who have had suitable training before enlistment and it is proposed to follow the same plan in the Army.

Pharmacists in the Reserve Corps

"Another fact which will be gratifying to pharmacists was the interest expressed by Dr Ireland in the establishment of a reserve officers' training school, for the prospective Reserve Medical Service Corps, which it is hoped Congress will authorize. The plan would be to arrange for special training for those graduates in pharmacy who desire to enlist in the Reserve Corps. This would be given in a reserve officers' training school and pharmacists could thus qualify as officers of the reserve corps, and be partially trained for immediate duty and commissions in time of war. Dr. Ireland also expressed the hope that if the Medical Service Corps is authorized by Congress, and the Reserve Corps established, (and this he will undertake to organize), that some of the highly trained pharmacists who have had military experience in the recent war will be willing to enlist at once as officers in this Reserve Corps and be placed on active duty in his office to assist in the organization and proper establishment of the pharmaceutical section. The plan would give the Corps at the beginning the benefit of the valuable experience of highly trained men who would probably be willing to devote a few months of their time for the establishment of the corps on a scientific basis, but without the requirement that they serve longer than necessary for organization. Of course, the details must be more thoroughly developed, but the opportunity is offered pharmacy to establish itself in the Army on the highest possible plane, and Dr. Ireland is very willing to cooperate with pharmaceutical leaders to that end.

Pharmacists in the Navy

"The situation in the Navy at this time is as follows: The Bureau of Medicine and Surgery is entirely in harmony with the principle represented by the Darrow Bill, and have done all within their provinces to advance this legislation. Of course, it is understood that Naval officials cannot personally advocate legislation, but can only recommend to the Secretary of the Navy what they believe would be to the best interests of their Departments. However on January 30, Dr. Braisted, the Surgeon General, appeared before the House Committee on Naval Affairs concerning the annual appropriation, and this opportunity was taken to secure his testimony concerning the Darrow Bill. He gave the members of the Committee his hearty endorsement of the principles involved in this bill and explained the subject in detail. Every member of the Committee had previously been interviewed and promised to give it their careful consideration.

Some Opposition to Darrow Bill

"The Darrow Bill has recently been submitted to the Bureau of Navigation, which must pass upon all suggestions for new commissions, and some opposition has been encountered. It is hoped that this may be overcome, as Dr. Braisted has sent a comprehensive brief to Admiral Washington, Chief of the Bureau of Navigation, setting forth the importance of establishing permanent commissions in the Hospital Corps, and presentations have been made by others to Admiral Washington and he is giving the matter his consideration. It may become necessary to enlist the personal interest of every Congressman in this bill and pharmacists of the country should urgently write at this time to their representatives urging that they support the Darrow Bill.

"In a conference with Admiral Washington, several alterations in the original draft were found to be desirable, but these can readily be incorporated in the Committee. They consisted of the change in rating so that instead of Captain, the highest rating authorized would be Lieutenant Commander. It was also suggested that "required sea duty" be introduced into the bill and also that it be distinctly indicated that the Hospital Corps is a branch of the Medical Corps, and not an independent organization. This latter has always been understood, but the bill apparently did not make it entirely clear. These modifications will be brought out at the hearings before the Naval Committee."

Druggists Dine War Worker

Early in February, more than fifty members of the Syracuse Retail Druggists' Association were present at a buffet dinner recently held in honor of Frank Lawyer, a former druggist, who has just returned from eighteen months' service with the Y. M. C. A. in Egypt.

It was nearly two years ago when Lawyer enlisted for Y. M. C. A. war work. He traveled over England, France, Belgium and Italy, paid a visit to Malta, the southern coast of Spain, and finally was sent to Cairo, Egypt.

After the dinner the following officers were elected by the druggists: President, D. Bruce Furnival; vice-president, Herbert G. Wright; secretary, Albert Muench, and treasurer, Louis D. Ireland.

URGES CENTRAL STATION SYSTEM

At the February meeting of the Kings County Pharmaceutical Society held at the Brooklyn College of Pharmacy, a resolution was adopted calling on the Legislative Committee of the New York State Ph.A. to prepare a bill for introduction in the Legislature authorizing the installation of a system of central stations for the distribution of liquor. At the previous meeting the society went on record as opposing the sale of whiskey and brandy in drug stores.

The resolutions were submitted by Thomas J. France, who declared that "the present situation with relation to the handling and sale of potable liquors is pregnant with trouble to the retail drug business and may ultimately bring reproach upon pharmacy as a profession." The text of the resolution is as follows:

Whereas, the present situation with relation to handling and sale of potable liquors is pregnant with trouble to the retail drug business and may ultimately bring reproach upon pharmacy as a profession, unless the pharmacists of the country take a positive position that the drug store shall never become the little gin mill: therefore

Resolved, that for the purpose of carrying this determination into effect the Kings County Pharmaceutical Society recommends that the absolute control of traffic in liquors shall be taken over by and be handled by the State through the establishment of stations or depots where liquor may alone be obtained under proper regulations and supervision·

Resolved, that we request the Legislative Committee of the New York State Pharmaceutical Association to formulate and have introduced into the Legislature a bill which will carry this recommendation into effect.

It was the consensus of opinion of those present that if the physicians of New York require whiskey for medicinal purposes they should obtain it through Government agencies that could be established in the city.

Dr. Joseph L. Mayer, associate professor of analytical chemistry at the Brooklyn College of Pharmacy, read a paper on "The Detection of Wood Alcohol in Beverages," which described simple tests and showed how they could be effectively employed by the pharmacist. (This paper appears elsewhere in this issue of the Era.)

Charles E. Heimerzheim, chairman of the Trade Matters Committee, announced that in continuing the U.S.P. and N.F. propaganda work the society had methodically followed for a number of years, two thousand blotters carrying descriptive matter relating to glycerinated elixir of gentian, elixir of potassium acetate and juniper, elixir of terpin hydrate, compound elixir of glycerophosphates, Stokes' mixture and syrup of bromides had been mailed to physicians.

B. A. R. D's NEW OFFICES

The Boston Association of Retail Druggists at a recent meeting held in the Massachusetts College of Pharmacy, elected the following officers; President, John J. Tobin, 1st vice-president, Sidney V. Rintels; 2nd vice-president, C. Fred Wright; 3rd vice-president, Samuel Davidson; treasurer, Lyman W. Griffin; secretary, Charles H. Davies; executive committee;—Sidney V. Rintels, William C. Welch, Patrick J. Cuddyer, Arthur C. Morey, Henry B. Knight, Charles A. Stover, John R. Sawyer, George C. Ketchum, George E. Grover, Frank H. Salisbury, C. Herbert Packard, Charles W. Freeman, James F. O'Connell William H. Glover and Sherman N. Sears.

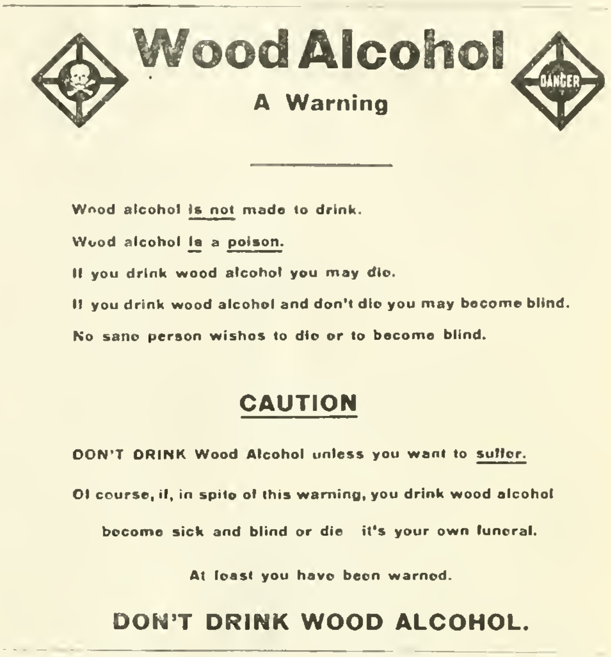
Wilmington Druggists Elect

The Wilmington (Del.) Association of Retail Druggists met in the parlors of the Hotel du Pont, Wilmington, on Jan. 14 and elected the following officers for the ensuing years; President, Albert Dougherty; vice-president, E. W. Lintner; secretary, Oscar C. Draper; treasurer, Miss Nora V. Brendle. After listening to an address by Deputy Attorney-General Percy W. Green on the requirements of the regulations relating to the sale of narcotics and drugs containing alcohol, the members attended a luncheon.

POSTERS CONTAIN WOOD ALCOHOL WARNING

Retail Druggists Urged to Educate Patrons by Displaying Signs Prominently

A large number of display posters, one of which is herewith reproduced, were sent to retail druggists this week. They contain a strong warning against the drinking of beverages that might contain wood alcohol. The poster is intended for display in a prominent place in the drug store so that patrons may read it and be brought to realize the great danger that lies in drinking any concoction that might contain wood alcohol.



Wood Alcohol

A Warning

Wood alcohol is not made to drink.

Wood alcohol is a poison.

If you drink wood alcohol you may die.

If you drink wood alcohol and don't die you may become blind.

No sane person wishes to die or to become blind.

CAUTION

DON'T DRINK Wood Alcohol unless you want to suffer.

Of course, if, in spite of this warning, you drink wood alcohol

become sick and blind or die it's your own funeral.

At least you have been warned.

DON'T DRINK WOOD ALCOHOL.

ALLIANCE CONDEMNS SENATE BILL 33

The National Drug and Chemical Alliance of Atlanta, Ga., has just sent a letter to every druggist in the State of Mississippi condemning Senate bill No. 33, entitled "An act to regulate the sale of patent and proprietary medicines with an alcoholic content of more than 15 per cent" as an unjust and wholly unnecessary law. The letter sent out by the Alliance says in part:

"This bill is ostensibly framed for the purposes of promoting prohibition in the State. It is altogether unnecessary from that viewpoint and would tend to defeat its ostensible purposes for the following reasons: There are now in force and effect, and have been for a long time, adequate Federal statutes and regulations particularly pertaining to proprietary or so-called 'patent' medicines. Under such regulations it is impossible to manufacture and sell any medicinal preparation which can be used 'for beverage purposes.' The Internal Revenue Department has long caused every such preparation on the market to be carefully examined to see that it is sufficiently medicated to prevent its use as a beverage."

The forty-fifth annual meeting of the National Wholesale Druggists' Association will be held at the Hotel Gibson, Cincinnati, Ohio, during the week beginning Oct. 25, 1920. Details of hotel accommodations, rates and routes will be made at a later date by the committee having charge of these matters.

Boards of Pharmacy

WISCONSIN

At the meeting held at Madison on Jan. 21-24, the Wisconsin Board of Pharmacy granted certificates to the following applicants who successfully passed the examination;

Registered pharmacists; Stanley C. Robbins, Rice Lake; Julius C. Ziehm, Marion; Oscar M. Branton, Rice Lake; Edward N. Fuhrmann, Monroe; Ralph C. Weeks, La Crosse; Harold H. Mueller, Oshkosh; Alfred H. Maack, Clintonville; Henry Belling, Appleton; Arthur F. Radtke, Appleton; Lawrence E. Bergsbrom, Marinette. Emil A. Hepfer, Neillsville; Lester G. Gaarder, Madison; E. O. Dent, Tigerton; Fred W. Fries, La Crosse; Kenneth G. Mace, Neenah; Frank Mulrooney, Rhinelander; Royal W. P. Lehnug, Prairie du Chien, Alfred W. Lawrence, Ripon; Alice Jakeman, Mazomanie, and Samuel Rubin, Louis A. Hock, George A. Hock, Elmer Huehnerberg, William C. Rhineck, Clarence B. Vreeland, Roy R. Deicken, Henry Grodnick, Oliver D. Kendall, Olga Wissbeck, Frank A. Krawzack, Herman W. Knopf, William J. Titzmann, Otto A. Sonmit and Walter E Barthel, all of Milwaukee.

Assistant pharmacists; Ellsworth Rockwood, Oshkosh; William Paul Tweetman, Racine; Minor J. Bergen, Iola; Fred J. Fasching, Eau Claire, Arthur E. Schmidt, Marion; Clyde Wm. Davis, Racine; Alfred A. Hintz, Appleton; Clarence L. Mueller, Fond du Lac; Gilbert W. Tell, Wausau; William Munbaugh, Kaukauna; Harold T. Anderson, Waupaca; Atilda Kropp, Norman H. Maas, Elmer C. Koehn, William B. Schutkin, Frank W. Phillips and Theophil Rajski, all of Milwaukee; Henry E. Abend, Independence; Norbert A. Mueller, Oshkosh; Theodore R. Phalen, Sheboygan Falls; Carl Olae Everson, Stoughton and Robert James Liddle, Allen Grove.

The next meeting of the board will be held in April.

TENNESSEE

At the recent meeting of the Tennessee Board of Pharmacy held at Nashville, Edward V. Sheely was elected president, and W. G. Coulter, of Clarksburg, was elected vice-president.

Seventeen applicants for pharmacists' license were examined by the board, 12 of whom passed and five of whom were classed as assistant pharmacists. There were 125 applicants for assistant pharmacist who had been filling prescriptions for the past five years. These were granted their licenses.

On July 19 the board will meet at Knoxville, at the same time the Tennessee Pharmaceutical Association meets. One new member to the board will be appointed by Gov. Roberts from the list of names sent in by the present board. W. J. Cox of Memphis, T. M. Scruggs of Jackson. David J. Kuhn and Sam Davis, both of Nashville, and John Sonner of Knoxville are the names now before the governor.

OREGON

The Oregon Board of Pharmacy has taken a firm stand against the admission to practice in Oregon of any pharmacist who does not hold American citizenship. At its January meeting, held in Portland, it put this new rule into effect for the first time. refusing certificates to two Japanese and one Russian who were registered in the State of Washington and wanted to be admitted to Oregon.

There is no specific provision in the Oregon pharmacy law which permits the state board to take this action. There is, however, a provision that the board may by resolution add to the regulations that are specified and the citizenship requirement is based on a resolution of the board.

The board considered the applications of 26 pharmacists, examining 14 and admitting 12 on certificates from other states. Officers of the board were elected as follows: President, Ross A. Farr; secretary, Clyde G. Huntley; treasurer, Edwin H. Hatch. They will begin their duties at the May meeting.

OHIO

At the meeting of the Ohio Board of Pharmacy held at Columbus on Jan. 13 and 14, forty applicants took the examination for registration as pharmacists, and two the examination for assistants. The following were granted certificates:

Pharmacists—Reuben S. Adelstein, Harold I. Baker, Maurice Beil, Fabian Catalano, Myer Efros, Edmund F. Funk, Emanuel A. Matyas, Milton Moss, Frank H. Ripley, Valentina T. Twarogowsvi, all of Cleveland. James P. Anderson and William R. Daniels, Lima; Reber Dix Burtch, Paulding; Thomas Paul McCready and Wallace B. McLaughlin, Wellsville; Bert Menachof and John L. Thinnes, Cincinnati; Edward H. Rensing, Norwood; Austin F. Zicht, Dayton; Arthur Reidenbach, Akron; R. Raymond Shaw, Willard; Stanislaus Bartling, McKees Rocks, Pa.

Harold L. Stewart, of Greenfield, made a grade high enough on his pharmacist examination to entitle him to an assistant pharmacist's certificate. Other successful applicants who received assistant pharmacist's certificates were Joseph H. Jackson, of Cleveland, and Mrs. Ocy C. Johannes, of East Liverpool. The highest grades obtained were 99.8 per cent by Reber Dix Burtch, of Paulding.

The following were granted registration on certificates from other States: Roy L. Irwin, E. D. Manning and Joseph A. Scott. The next examination will be held in Columbus on April 6 and 7.

MINNESOTA

The Minnesota Board of Pharmacy at its annual meeting held at Minneapolis on Jan. 28-29 elected the following officers; President, John M. Biese, Fergus Falls; secretary, H. M. Johnson, St. Paul. The board announced the registration of the following individuals;

Registered pharmacists: C. P. Anderson, Brainerd; H. E. Anderson, Whalen; C. P Cutting, Sleepy Eye; H. E. Eichinger, Canby; T. E. Graham, Minneapolis; A. W. Guilbert, Waseca; Geo. M. Hanson, Breckenridge; E. S. Hortenstein, Luverne; G. B. Hovland, Dawson; F. B. Johnson, East Grand Forks; G. Q. Kingman, Rush City; C. W. Krause, Chatfield; J. McClintock, Minneapolis; Amre Mulrean, Benson; N. S. Nelson, Owatonna; Chas. V. Getz, R. G. Paulson, Austin; J. A. Polczak, Minneapolis; W. R. Stewart, St. Paul; D. S. Stockdill, Triumph; Q. Tillotson, Gettysburg, S. D.; W. G. Yackel, Comfrey.

Registered assistants: A. E. Anderson, Brainerd; A. F. Barker, Monticello; J. H. Blair, Minneapolis; M. E. Clarquist, Hoffman; M. J. Conway, Blackduck; J. A. Epple, New Ulm; N. L. Galtz, Winona; G. A. Guebrandsen, Lanesboro; D. L. Hanson, Sauk Center; F. E. Judge, Minneapolis; J. W. Kelly, Minneapolis; E. L. Klein, Winnebago; W. R. Lindstrom, Northfield; E. F. Mackenstadt, Minneapolis; George R. Mellin, Minneapolis; C. D. Nelson, Parkers Prairie; E. J. Norman, Granite Falls; G. T. Payant, Faribault; Clifford A. Peterson, Alexandria.

Schools and Colleges

NORTH PACIFIC COLLEGE

Several additions have been made to the faculty of the department of pharmacy of North Pacific College, located at Portland, Ore. Terrance H. Eckerson, Ph.C., is assisting in the chemistry department with Fay Robinson in the stock room. Frank C. Pearn, Phm.B., Ph.C., D.M.D., is professor of pharmacy and materia medica. J. Allen Gilbert, M.D., is professor of physiology. Todd E. Rudd is instructor in biology.

The Trowel Fraternity, one of the new organizations open to Masons who are members of the student body, elected C. M. Naff, senior master; C. E. Owens, junior master, R. Gilson, secretary-treasurer, and Dr. Walton, inspector. The fraternity holds business and social meetings in the Acacia club rooms. Each month a banquet is held in the Oregon Grill.

The freshman class elected W. P. Rice, of Seattle, president; C. M. Wheeler, of Portland, vice-president; W. H. Christensen, of Spokane, secretary; F. Michels, of Seattle, treasurer, and M. Ward, of Salt Lake, sergeant at arms.

Emil F. Pernot, M.S., director of laboratories North Pacific College, has completed additional copies of some of his best lantern slides in pathology and histology. They are to be used in educational meetings in the East demonstrating methods of visual instruction.

Benjamin Vitou, D.M.D., professor of histology and radiography, is conducting the pharmacy classes in radiography. The students are showing keen interest in the many problems of radiography.

The Kappa Psi Fraternity, which was hit very severely by the war, has reorganized and is now located in a new house close to the college. Xi Psi Phi fraternity moved to a new home the first of the year, while Delta Sigma Delta and Psi Omega fraternities have made several changes in their houses.

Considerable interest is being shown in the third-year work in pharmacy. The work is planned to prepare graduates to become laboratory workers capable of doing X-ray work, making autogenous vaccines, bacteriological tests, microscopical examinations and chemical analyses of the various physiological secretions.

MEDICAL COLLEGE OF VIRGINIA

The ex-service members of the student body attended a get-together meeting of world war veterans which was held by the Virginia section of the American Pharmaceutical Association on Wednesday night, Jan. 21, in the college dormitory. The program consisted of a delightful supper, smokes, and speeches. The guests of honor were the members of the Virginia State Board of Pharmacy.

The burden of the talks was the lack of proper organization among pharmacists that is so necessary for the accomplishment of the big things which are desirable and the point was stressed that the first step toward this was united support of both State pharmaceutical associations and the A.Ph.A. The chairman, D. F. Walker, of the Virginia section of the A.Ph.A., extended an invitation to the ex-service men to join the national association as war veteran members which was responded to heartily by every eligible man present.

The Pharmaceutical Association of the Medical College of Virginia a student organization, has been holding regular bi-weekly meetings. Programs have consisted of original papers on pharmaceutical subjects, selections from current pharmaceutical literature and debates on pertinent questions pertaining to pharmacy. These meetings prove to be of great value to the men.

The freshmen classes of the schools of medicine, dentistry and pharmacy were given the psychological tests prepared by Columbia University. The students entered into these tests with a fine spirit and it will be interesting to compare the results of these with their scholastic records at the end of the session.

SOUTH DAKOTA STATE COLLEGE

The department of pharmacy of the South Dakota State College of Agriculture and Mechanic Arts at Brookings reports an increased enrollment in the freshman class of one hundred per cent. This increase in attendance has caused the department to take up new quarters in the administration building, with three times the working room the department formerly had in the chemistry building. New equipment for pharmaceutical work and drug assay, and a complete prescription room have been installed, and students will be required to do actual prescription work. A library and study room for regular students and those working on research problems has also been provided. Provision has also been made for study in connection with the medicinal and poisonous plant garden. Seedings are now being started in the greenhouse for the development of the course in pharmacognosy and for transplanting into the drug garden next spring.

The department is making preparations for the entertainment of the South Dakota Pharmaceutical Association which is to hold its convention in Brookings next August.

LOUISVILLE

Activity is reported in the campaign to raise $50,000 to remodel and equip the Louisville College of Pharmacy, the committee starting in on its work Feb. 24. Simon N. Jones, general chairman in charge of the work, is assisted by the following Campaign Committee: John J. Seiberz, Robert J. Frick, Horace O. Hurley, William Vitteler and Edward H. Day.

The college was instituted in 1870, and chartered by the State of Kentucky in 1873 under a provision that the institution can never be operated as a source of revenue to those who established it or who may be connected with it. The institution is not conducted as a commercial enterprise, and if for any cause it ceases to operate as a college of pharmacy, its entire assets, building, equipment and funds pass to the school fund of the State. During the last thirty years the college has occupied the building at the southwest corner of First and Chestnut streets, Louisville, but the classes have grown to such proportions that the present quarters are too small to accommodate them properly, hence the urgent necessity of securing another building or remodeling the present one. The college is without endowment, and the income derived from tuition fees is not sufficient to defray the cost of needed improvements.

Among the founders of the institution were the late C. Lewis Diehl and Emil Scheffer, both of whom rendered eminent services to pharmacy, the first-named serving as president of the college and professor of pharmacy for thirty-two years. Emil Scheffer, who was also a member of the faculty for a number of years, achieved distinction in the discovery of a process for making pepsin.

UNIVERSITY OF IOWA

Several alumni are now in the employ of the Churchill Drug Company at Cedar Rapids. J. C. Lick and R. S. Townsend, both of the 1916 class, D. T. Stanton '17, and F. A. Challed, '11.

E. R. Utterback, ex '12, proprietor of the Elite Pharmacy at Iowa City, was married to Marguerite Fitzgibbons on New Year's Day at St. Ambrose Cathedral in Des Moines. Mrs. Utterback has been a student at the University and later taught at Muscatine. Mr. Utterback is secretary of the local Rotary Club and takes active part in other local affairs.

Phi Delta Chi Fraternity has held several initiations during the last few weeks, and the following members of the class of 1921 have been taken in: H. J. Kriebs Elkport; G. R. Huff, Rockwell City; F. R. Graham, Missouri Valley; W. H. Carter, Waukon; R. J. Hilliard, Vinton; A. S. Hvistendahl, Canton, S. Dak.; C. R. Copeland, Fairfield; S. S. Goodspeed, Spencer; Wm. Hanson, Story City; F. H. Greesaman, '21, Ellicott, and Clarence Sather, '21, Canby, Minn., are recent pledges to Phi Delta Chi.

Dr. P. J. Hanzlik, '02, '08, of Western Reserve University, and his collaborators for some time have been investigating the fate of salicylates in the body and have made several reports. Some of the conclusions reached are not in accord with the older literature. Dr. Hanzlik believes that under certain conditions twenty per cent of salicylates is destroyed. The latest report is to be found in the Journal of Pharmacology and Experimental Therapeutics, under the title, "The Salicylates: The Stability and Destruction of the Salicyl Group under Biological Conditions."

N. J. Nemmers, '18, and Rose K. Beringer were married Jan. 26 at St. Augustine Church at Bowdle, S. Dak. They will be at home after April 1st at Lamotte, Iowa. Mr. Nemmers has recently purchased the Hingtgen store at that place and will take possession about March 1st.

Word has been received of the death of Mrs. Minnie Dunn Curfman, '04, at Camfield, Col., Sept. 1, 1919.

J. A. Pierce, B.A. and Ph.G., '09, of Meeker, Col., spent several days visiting old friends about the University during the last week in January.

Oregon Agricultural College

The Oregon Agricultural College at Corvallis will install in the school of pharmacy connected with the institution a model drug store, plans for which are now being perfected. A special room will be set aside and equipped with different kinds of labor-saving devices, and students will be instructed in methods of drug manufacture, with the idea of fitting them for salesmanship. The work will be a part of the course in commercial pharmacy.

Massachusetts

Alpha Chapter of the Lambda Kappa Sigma Sorority held their initiation at the Massachusetts College of Pharmacy Jan. 24. Following the initiation a banquet was served in the chapter room. Decorations and favors were artistically carried out in the sorority colors—old blue and gold. The committee in charge comprised Priscilla Cutler, Margaret Broadbent, Frances Symonds and Mildred Spaulding.

University of Nebraska

Dr. Albert Schneider, formerly connected with the University of California, but now professor of pharmacognosy of the College of Pharmacy, University of Nebraska, Lincoln, is planning some changes in the college medicinal plant garden for the coming season, and will endeavor to test out a greater variety of drug producing plants, with special reference to ascertaining those drug plants which are most likely to be grown in Nebraska on a commercial scale. Field experiments covering various kinds of plants will be tried, and the various methods of growing and crop returns will be reported in bulletin form for the benefit of those in the State who contemplate growing such plants..

CHEMIST REPORTS ON STOCK REMEDIES

Farmers who lose money by the indiscriminate purchase of stock remedies, tonics and nostrums would do well to get the advice of a reputable veterinarian for diagnosis prior to such purchase, suggests Prof. B. A. Dunbar, head chemist of the South Dakota experiment station, at Brookings, who reports that analyses of the flood of tonics and stock foods that have come to his department show the main ingredients to be about as follows:

"They usually carry a large percentage of common salt; a laxative such as Epsom salt, Glauber's salt, and the like; sulphur; charcoal or other form of carbon; sulphate of iron as a tonic vermifuge, and usually a filler by way of mill feeds, oil meal, screenings, grass seeds, peanut shells, sand or tankage. We usually find a very small quantity of a mild drug like gentian, foenugreek, ginger or pepper.

"In the light of these findings, it would seem that if the farmer lacks access to a regular veterinarian he might well buy such drugs locally and serve them to his stock in small doses, thereby having the satisfaction of knowing just what he is feeding, as well as knowing that the real food value of his ration is in the form of feed grown upon his land and of a known quality.

"It is but fair to add, however, that the extra care given to animals under treatment has produced its good results because we usually heed advice that we pay a high price for. Almost invariably the directions accompanying the sale of patent stock remedies and foods demand unusual attention to the sanitary and feeding conditions which must be observed during treatment. I doubt not that this feature of extra care and control of animals alone has contributed much to the health of the stock. Whatever we may say of the value—or the lack of it—of these remedies, we must admit that this unusual care will have its good effect.

"Several of our experiment stations have tried out stock feeds in actual practice, and under the best possible conditions of sanitation, and surroundings but only two of twenty or more trials showed that there was any material improvement to be gained from the use of the feeds, and these results are open to question.

"In so far as these materials may lay claim to a large value as extra nutrients, we cannot admit them to our confidence, since whatever constituents they may carry are present in such small amounts as to make this claim inconsiderable. Again, such doses of condimental materials or medicinal drugs as are found in the ordinary rations of these materials are so slight as to have little marked effect along the line suggested by the presence of the drug. In administering the same medicines, a veterinarian would not recognize the quantities as found in these remedies as at all sufficient."

New Hampshire Druggists Meet

Manchester, N. H., Feb. 11—The New Hampshire Pharmaceutical Association held its midwinter meeting in the Hotel Orrington last week. Charles E. Dufort, of Manchester, presided. Mr. Call, of the Internal Revenue office in Portsmouth, was the principal speaker, explaining to the druggists some of the ramifications of the income tax law. About sixty druggists from all parts of the state attended.

Educational Department

Devoted to Information, Criticisms and Suggestions on Pharmaceutical Topics of Special Interest to Era Course and Other Students.

Conducted by C. VERNE NICHOLS, Ph.C., B.A., M.S., Director of the Era Course in Pharmacy.

ACTION OF NITROUS ACID ON MONO-ETHYL-AMINE

It has been noticed with frequency that a student goes astray in answering the question in Organic Chemistry which has to do with the action of nitrous acid on mono-ethyl-amine. The action of nitrous acid on amines in general shows that free nitrogen and an alcohol are products of the reaction, and it is shown that the equation is somewhat analogous to the decomposition of ammonium nitrite by heat in the preparation of nitrogen gas as discussed in Lecture 3, Part 1. The last sentence of Lecture 3, Part 2, clearly states that, "This reaction enables us to pass from an amino compound to an alcohol, or to change an NH_2 group to OH."

This is a general statement, as shown by the word "an" in both cases. Any mono-amine of the paraffin series may be changed into a primary alcohol by the action of nitrous acid. It is difficult, therefore, to explain why a student should give *methyl* alcohol as a product of the reaction of nitrous acid in mono-*ethyl*-amine. In all these reactions the hydrocarbon radical remains the same; the amino group, NH_2, is the only part of the compound that is affected. In this example, the principle involved is the conversion of the amino group into the hydroxyl group by the action of nitrous acid. This much is stated, and it should be an easy matter for the student to see that if ethyl-amine is used, ethyl alcohol, the only alcohol that can be produced from mono-ethyl-amine, will be one of the products of the reaction, and not methyl alcohol.

THE VALUE OF THE FUNDAMENTALS

The object in asking questions such as the one treated in the foregoing comment is to prompt the student to form the habit of thinking for himself. The answers to a number of the questions asked in the different Lectures are not to be found expressed in so many words in the Lectures, but the basic principles are stated and discussed, and the student "who uses his noodle," should be able to work out the answers to such questions from the suggestions given, or from similar cases that have been dealt with.

A day seldom passes but that some question comes up in the professional work of every druggist which cannot be settled by reference to any text-book. Such questions must be solved by the application of principles which one learns in the elementary study of a subject. When once a principle is well understood, all of the cases which come under the principle are easily mastered. The mistake often made by the student in taking up a new subject is his failure to learn the fundamentals of that subject, when the value of all of the advanced work which follows is dependent upon this knowledge.

Perhaps some of the students who make mistakes, such as the one mentioned above, have been guilty of carelessness in reading the question. Because the equations in the Lecture refer to methyl-amine, the students, no doubt, were taking it for granted that the question was based on this substance rather than on ethyl-amine, but it is well to remember that the answers to the questions are not always to be found specifically answered in so many words in the Lectures.

Another example which goes to show that the elementary principles are not always closely observed: A number of the students when writing the answer to the question, "What is the basicity of benzoic acid?" answer it in various ways. Some tell where it occurs, while others tell how it is prepared—apparently because these points are discussed in the treatment of this subject. Earlier in the Lectures, the student is told that, "The number of carboxyl groups, COOH, present in an acid, each containing one replaceable hydrogen atom, determines the basicity of the acid." With this idea in mind it would be a very easy matter for the student to state that benzoic acid is monobasic, because benzoic acid, C_6H_5COOH, contains but one carboxyl group, or, but one replaceable hydrogen.

THOROUGH PREPARATION A NECESSITY

The value of thorough study before writing out recitations is clearly shown by the following answers which were received from one of our students:

Question—Explain why certain preliminary studies are necessary for studying pharmacognosy.

"To meet with anything like success in pharmacognosy, the preliminary study and ultimate acquisition of a very fair knowledge of botany is indeed very necessary, a thorough knowledge of botanical terms as applied to plants, leaves, etc., being essential, so that the student may readily recognize and identify various drugs by their external appearance. But unfortunately the identification of drugs does not end here. Often plants, leaves, etc., are received in broken condition or in such a way that recognition by external analysis is quite impossible, and he has to have recourse to the microscope and perhaps tests of various kinds may have to be resorted to, in order to determine the identity of the particular drug which one desires to manufacture into medicine.

"Therefore, a knowledge of systematic, structural and physiological botany is a very necessary prerequisite to enable one to intelligently undertake the study of pharmacognosy."

A Knowledge of Pharmacognosy Helps

Question—In what way does this essential branch of pharmaceutical training have a bearing on the commercial side of pharmacy?

"It enables the pharmacist to recognize what he sees and to know how the substance came to be in that form, its quality and its value in medicine. It places the pharmacist in a position to buy advantageously and to sell with confidence and satisfaction to his customers, either the crude drug or the prepared medicine. He is guided and assisted by this branch of pharmaceutical training to intelligently collect, preserve and store such specimens of drug plants, which at some future date he may wish to use to compare with similar drugs on the market, and by which means he is easily able to determine quality and value. In the commercial world the pharmacist very often finds himself in one of the three groups of positions, in which he is brought into relations with plant structures.

1st. In the collection and identification of crude materials for the manufacture of medicine.

"2d. In the wholesale and retail trade of partially prepared plant material, such as gentian, senega, cinchona bark, rhubarb, mustard, etc.

"3d. In the examination of foods, condiments and similar substances.

"Therefore, to meet with anything like success, and to do justice to one's employer or to himself, this training is not only essential, but it is pre-eminently a prerequisite."

Further comment seems to be unnecessary, for a thorough and conscientious study of the subject matter enables one to answer questions on the different subjects in a manner that well pays for the hours spent in study.

QUERIES ANSWERED

> Questions answered under this caption are of a general nature and are numbered consecutively, beginning with the issue of the Era for November, 1918.

301. What is the difference between potassium tartrate and cream of tartar?

Potassium tartrate is the neutral salt of tartaric acid, $K_2C_4H_4O_6$, while cream of tartar is the acid potassium salt of tartaric acid, $KHC_4H_4O_6$. The neutral salt is known as "soluble tartar". Cream of tartar is recognized in the Pharmacopoeia under the title of "Potassii bitartras."

302. What results and what is held in solution when solutions of white vitriol and "saccharum saturni" are mixed?

Lead sulphate is precipitated and zinc acetate is held in solution, the reaction being thus expressed: $ZnSO_4 + Pb(C_2H_3O_2)_2 = PbSO_4 + Zn(C_2H_3O_2)_2$. White vitriol and "saccharum saturni" are synonyms for zinc sulphate and sugar of lead (lead acetate), respectively.

303. What is castile soap?

The official hard soap made from olive oil and sodium hydroxide, so called because made by the process originally used in Castile, Spain.

304. What are the impurities in ordinary commercial sulphuric acid?

Nitric and sulphurous acids, lead, and frequently, arsenic.

305. Why does the Pharmacopoeia direct that sodium phosphate shall be kept in a cool place?

On exposure to air sodium phosphate effloresces and loses water of crystallization and also gradually absorbs carbon dioxide, the salt being converted into monosodium phosphate and acid sodium carbonate; hence it must be preserved in well-stoppered bottles, in a cool place.

306. What is pyroxylin? By what other name is it known?

Pyroxylin is the product obtained by treating purified cotton with a mixture of nitric and sulphuric acids, and consists chiefly of cellulose tetranitrate. It is also known as soluble gun cotton.

307. What official tinctures are made from animal drugs?

Tinctures of cantharides and musk.

308. What official tinctures are prepared from inorganic chemicals?

Tinctures of ferric chloride and iodine.

309. What is Kentish's ointment?

A synonym for turpentine liniment, U. S. P.

310. What is cellulose and what pharmacopoeial product consists chiefly of cellulose?

Cellulose is the fundamental material of which the cellular membrane of vegetables is built up, forming the principal part of the solid framework of plants. The official purified cotton is almost pure cellulose.

311. What is (a) Javelle water? (b) Minium? (c) Oil of vitriol? (d) Elixir of vitriol? (e) Spirit of salt?

(a) Solution of potassium hypochlorite. (b) Red oxide of lead. (c) Sulphuric acid. (d) Aromatic sulphuric acid. (e) Hydrochloric acid.

312. What official plasters does the Pharmacopoeia direct shall be spread?

Capsicum plaster and cantharides plaster.

313. How might pure silver be prepared from silver coin?

Dissolve the coin in nitric acid and add sodium chloride which precipitates the silver as a chloride. Filter out the precipitate (silver chloride), wash, dry and mix with sodium carbonate. Heat the mixture in a crucible which will reduce the silver to the metallic state, forming a button in the bottom of the crucible.

314. What are four pharmacopoeial monobasic organic acids?

Oleic, salicylic, benzoic and stearic acids.

315. What are three allotropic forms of carbon?

Diamond, graphite or plumbago, and charcoal.

316. What pharmacopoeial solution contains the highest percentage content of iron?

Solution of ferric subsulphate or Monsel's Solution.

317. In the manufacture of what official preparation does the reaction represented by the following equation take place: $NH_4HCO_3.NH_4NH_2CO_2 + 3HC_2H_3O_2 = 3NH_4C_2H_3O_2 + H_2O + 2CO_2$?

The equation represents the reaction which takes place in the preparation of solution of ammonium acetate (Spirit of Mindererus).

318. What is the purpose of the addition of alcohol to the fluidextract of ginger in preparing the official syrup of ginger?

Alcohol is added to the fluidextract for the purpose of keeping more of the oleoresinous matter in solution in the aqueous liquid than would otherwise be the case.

319. What is the preparation known as "oil of black pepper" and what are the crystals it deposits when first made?

Oleoresin of pepper. Piperin in crystals is deposited. These should be removed by straining and only the liquid portion of the oleoresin used.

320. What is the pharmacopoeial title and chemical formula of (a) blue vitriol? (b) Green vitriol? (c) Roman vitriol? (d) White vitriol?

(a) Cupri Sulphas, $CuSO_4$; (b) Ferri Sulphas, $FeSO_4$; (c) Cupri Sulphas, $CuSO_4$; (d) Zinci Sulphas, $ZnSO_4$.

321. What is the pharmacopoeial title of (a) Monsel's solution? (b) Lugol's solution? (c) Spirit of Mindererus? (d) Goulard's extract?

(a) Liquor ferri subsulphatis. (b) Liquor iodi compositus. (c) Liquor ammonii acetatis. (d) Liquor plumbi subacetatis.

S. K. & F. Striking Window Trim

Smith, Kline & French Company of Philadelphia have recently put out an attractive window display designed to advertise their S. K. & F. Aspirin. The display is in three colors, so arranged that the different units may be combined or separated as desired, this flexibility making the trim suitable for any size or style of window or store display. Besides furnishing an attractive window trim, the display brings an additional advantage to the dealer, in that he is advertising an Aspirin which gives him a really worthwhile profit to sell. The display is obtainable through jobbers, and druggists will do well to ask for an S. K. & F. window trim when they send in their regular orders.

Women in Pharmacy

CONDUCTED BY EMMA GARY WALLACE

NOW AN ACTIVE PHARMACIST

Miss B. L. Pellerin

The election of Miss Bernice L. Pellerin as vice-president of a drug store corporation and manager of the pharmacy at Lyndale avenue and Lake street, Minneapolis, Minn., is one of many incidents described in the news events of the day which tend to confirm the belief that women are making good in pharmacy. Miss Pellerin, entirely dependent upon her own effort, has had to make her way up the ladder unaided. Several years ago she started as a clerk for the Lundberg-Wright Drug Co., of Minneapolis, attending the Minnesota Institute of Pharmacy in the meantime, and from which she was later graduated with a very high mark. She then took the State Board of Pharmacy examination which she successfully passed, receiving a license as a registered pharmacist. She is affiliated with the Minnesota Pharmaceutical Association, and takes an active interest in all that pertains to the professional advancement of pharmacy. Miss Pellerin's record as a student has been most creditable, and her many friends take great pride in her achievement, which they cite as a stimulating example worthy of emulation by other young women who wish to become pharmacists

AROUND THE CIRCUIT

Chicago Chapter, No. 2, is enjoying very helpful monthly meetings in Roosevelt Hall, State Lake building. The December gathering was a large one, in spite of the bitter cold weather. Mrs. Joseph Forbrich, Chairman of the Ways and Means Committee, gave a report of the card party held at the home of Mrs. Riemenschneider, who was assisted by Mrs. J. Wierter and Mrs. C. E. Battles. A delightful afternoon was spent and quite a large sum of money was added to the funds of the organization.

Professor Snyder of the Northwestern University gave an address on "Americanization." He tried to impress his hearers with the spirit of democracy as shown by Franklin, Lincoln, and Roosevelt in their desire for the welfare of their countrymen, and in the development of true leadership.

It was decided to make special efforts to hold a spring meeting in May, with an evening dinner party, a fine program, and all the husbands as guests.

The cafeteria luncheon given January 13th netted $107. The Chapter was honored and happy to have as its guests, President Charles Friesenecker, Secretary I. M. Light, Editor A. E. Ormes, and Assistant Secretary, Mrs. Elizabeth Flannigan from the C. R. D. A., and N. A. R. D. Secretary, S. E. Henry.

Cincinnati Chapter, No. 5, held its last meeting with Mrs. Louise Blesi. Miss Minnie Derringer, the second vice-president, was in the chair. Reports of the Entertainment and Philanthropy Committees were read, and votes of thanks extended to their respective chairmen, Mrs. Krause and Mrs. Anna Groenland. Mrs. Blesi and Mrs. Louis Werner acted as joint hostesses at this meeting.

Sympathy was extended to Mrs. John Weik, upon the sad occasion of the death of her husband. Both Mr. and Mrs. Weik were very active and popular in local, state, and national drug circles, Mr. Weik being prominently identified with the O. V. D. A. He leaves besides his wife, a young daughter, several brothers and sisters, and both parents.

Philadelphia Chapter, No. 6, held its regular monthly meeting, January 13, at the College of Pharmacy, with the President, Mrs. Lee, in the chair. Reports were given upon the Christmas Party which had been a great success, and to which a gift of $25.00 was added for full measure for the College Settlement children.

Resolutions of sympathy were passed in behalf of Mrs. Schminky, whose father had passed away. Flowers and cheery notes were directed sent to the sick members, Miss May Kessler and Miss Emily Morrison. A report was read showing that $59.70 had been donated to the Christmas fund. The speakers of the afternoon were Miss Porterfield on "Community Centers" and Mrs. Baird who spoke on the Red Cross, and the Needlework Guild. There were refreshments and a social hour.

St. Louis Chapter, No. 8, held its last meeting at Planters Hotel. Donations were voted to the Provident, Red Cross and Tuberculosis associations and the Salvation Army. Mrs. G. Hausgen was hostess of the day and the rest of the time was taken up with a social period.

Mrs. W. E. Lee was the guest of Wilmington Chapter at its last meeting. There was a 99 per cent attendance to meet her. Routine business was passed over as quickly as possible, that the time might be given to Mrs. Lee who made a most interesting address. She explained why the extra tax was asked of each Chapter to help pay for the September Bulletin, as the cost for putting out this issue of the Convention Number, was six times the ordinary expense. Mrs. Lee gave an informal report of the Convention at Rochester and an outline of the work being undertaken for the coming year.

A later meeting of the Chapter was held with Mrs. Albert Dougherty.

The January gathering of the Rock Island Chapter, No. 15, was held at the home of Mrs. C. Anderson, East Moline. The afternoon was spent playing "500". The hostess served a dainty luncheon, after which a business session was held. The following ladies were elected to serve the Chapter for 1920: Mrs. H Rowe, Rock Island, president; Mrs. C. Brunstron, Moline, vice-president; Mrs. J. Jumisch, Moline, secretary; Mrs. William Ullermeyer, Rock Island, treasurer.

Mrs. Clyde Anderson was welcomed as a new member. The February meeting is to be held at the home of Mrs. William Ullermeyer.

Sympathy is extended to Mrs. Fred Esau of Milwaukee upon the death of her husband, who passed away after being ill a week with pneumonia. Mrs. Esau is very ill herself, but hopes are entertained for her recovery.

The annual Christmas party given by the Milwaukee Chapter, No. 19, was a great success. The juveniles gave the program, and it was surprisingly good. Mrs. Herman

Lambeck, the president, was not able to be out as Mr. Lambeck is still convalescing.

Congratulations are extended to Mrs D. Lesser of Detroit Avenue, Cleveland, who presented her husband with a lovely baby daughter as a New Year gift.

Miss Della Wasserman, one of the active druggists among the Cleveland Chapter members, was visited by a fire in her store recently, which however, was checked after it did considerable damage.

Mrs. Willard Fox, president of Cleveland Chapter, is in the throes of remodelling her home and adding a new store front, the two being connected.

Mrs. Adolph Kiessling of 2854 Diversey Blvd., Chicago, died on Jan. 21st, after having suffered for some time from Bright's disease. Burial was made at Waldheim Cemetery. Mrs. Kiessling had long been a member of the W. O. N. A. R. D. and will be greatly missed. Sympathy is extended to her family.

The annual Chicago Drug Club Ladies' Night was a great success, for in spite of the epidemic of influenza which was raging, 600 druggists, drug salesmen, and their lady friends turned out President Otto Mentz was kept at home by illness, and several of the entertainers who had been engaged, were not able to fill their parts.

This long-anticipated affair was staged in the big banquet hall on the nineteenth floor of the Hotel LaSalle. In place of large tables, small ones were provided for the guests of the evening, giving a peculiarly homey atmosphere to the whole thing.

Before the dinner, there was an hour of excellent vaudeville, a novel feature of which was the singing and playing of a genuine Hawaiian quartette. Following dinner, there was a vaudeville entertainment which was followed by dancing.

Boston Chapter, No. 1, held its January meeting at the Hotel Brunswick. Miss Ella S. Twitchell presided. There was a musical program followed by a social hour. There was a good-sized attendance and everyone enjoyed the "Get Together" and its community spirit of harmony and good fellowship.

The sad case of the baby daughter, Etta, of Mr. and Mrs. Martin J. Jensen, of Torrey, N. Y., should be a warning to all drug folk families where there are little children. Baby Etta by some means got hold of acetanilid headache tablets and swallowed enough of these to cause her death. Sincere sympathy is extended to the bereaved parents.

The marriage of Miss Mary Isabella Frames, the daughter of one of the leading druggists of Baltimore, Md., to Mr. William Plummer of that city, was recently celebrated.

The drug store formerly owned by Millane Brothers at the Highlands in Holyoke, Mass., has been purchased by Miss Mary Cunningham who has served for a number of years in the W. E. Martin Drug Store.

Mrs. Charles E. Storer, wife of the Treasurer of the C. R. D. A., and Ex-President of the W. O. N. A. R. D., is seriously ill at her home.

Members of the National Drug Trade Conference met the War Trade Board in Washington recently to discuss the advisability of exercising the option to take German chemicals under the allocation agreement made when the armistice was signed. The question will be submitted to the manufacturers.

FIRM CELEBRATES 90TH ANNIVERSARY

Pittsburgh, Pa., Feb. 18.—The George A. Kelly Co., wholesale druggists of Pittsburgh, have issued a booklet in honor of the 90th anniversary of the establishment of the firm. The business was started April 17, 1829, by Benjamin Fahnestock. In 1870 the company was taken over by George A. Kelly. He was born in Pittsburgh in 1832 and was of English stock, his father having fought at Waterloo. The booklet also tells how Mr. Kelly helped discover "Blind Tom," the musical prodigy on a Southern plantation.

The booklet pursues the biography of Mr. Kelly through all the incidents of his public activities and the steady enlargement of the wholesale drug business. He died in 1902. Portraits of George A. Kelly, Jr., and George A. Kelly, 3d, besides those of many long connected employees, are features. It is not only a pamphlet rich in city history, but a genuine memorial of the founder himself who was so long identified with civic projects and welfare work of the city of Pittsburgh.

THE BAYER COMPANY'S ADVERTISING

The Bayer Company announce that they are spending a million dollars to tell the people about "Bayer's Tablets of Aspirin." They are using daily and weekly newspapers and magazines, urging folks to go to their druggists and to look for the "Bayer Cross." Most people will act on the suggestion to buy a full package, but if an occasional buyer insists, it is easy to sell him 10 cents' worth from one of the larger packages. As a further aid to dealers, the Bayer Company furnish handsome displays in colors for counters or windows. These are splendid selling helps, and dealers are invited to write to The Bayer Company (Inc.), 117 Hudson street, New York, for one of these displays. The manufacturers state that druggists never risk a cent in stocking liberally, as Bayer products are returnable for cash.

FREEZONE FREE DEAL

The Edward Wesley Co., manufacturers, Cincinnati, Ohio, offer one dozen "Fluff" Beauty Shampoo free, also 5 per cent quantity discount, if the druggist buys six dozen Freezone from any wholesaler. The deal figures almost 100 per cent profit to the druggist who invests $15.96, and sells the Fluff and Freezone for $29.50. The company state that this offer is good because every druggist can easily sell six dozen Freezone; the advertising is almost sensational, and the money spent in this publicity totals over half a million dollars in a season. Edward Wesley Co. promise the druggist that if the Freezone bought on this deal doesn't sell fast, they will take it back at any time at the price paid. Read the details of their offer on another page of this issue, and use the order blank attached thereto

VOTES BONUS TO EMPLOYEES

Prompted by a desire to show their appreciation of the firm spirit of co-operation and courage displayed by their employees during the busy and hard times of the past year, the Board of Directors of the North American Dye Corporation, Mt. Vernon, N. Y., have voted a bonus of 5 per cent to each employee, based on the amount received by each individual during 1919. The company, which manufactures Sunset Soap Dyes for the trade and household use, has grown to be one of the largest of its kind in America. The officers of the company are: President, Charles L. Ketchen; vice-president, Harry R. Patten; treasurer, George B. Currier; secretary, Charles A. Loring. The main office of the company is at Mt. Vernon.

Obituaries

FERDINAND A. BONGARTZ

Ferdinand A. Bongartz, who was for six years a member of the New Jersey State Board of Pharmacy and was widely known throughout Hudson County, died last week at his late home at 333 Palisade Avenue, Jersey City, N. J. His death followed a protracted illness.

F. A. Bongartz

Mr. Bongartz was sixty-two years old and had been a pharmacist for nearly forty years. He had been vice-president of the New Jersey State Board of Pharmacy for the past six years, resigning only last June because of ill health. He was appointed to that board originally by Governor Fielder and was reappointed by Governor Edge. He was prominent in the activities of the Jersey City, State and national druggists' associations, of which he had long been a member. He was a member of the New Jersey Pharmaceutical Association since 1888, and a member of the A.Ph.A., having joined in 1905.

Mr. Bongartz is survived by his widow, Mrs. Ida Bongartz, and by three sons.

Edwin O. Burr, for nearly twenty years manager of the American branch of Roure-Bertrand Fils, manufacturers of essential oils and perfumery raw materials, Grasse, France, and previously for many years general manager and secretary of the old house of Lazell, Dalley & Co., New York, died on Jan. 31, aged sixty-three. He was widely known in the drug trade throughout the country, and had served as a member of the board of governors of the Drug and Chemical Club and as chairman of the Drug Trade Section of the New York Board of Trade and Transportation.

W. A. D'Alemberte, for fifty-three years a highly respected citizen of Pensacola, Fla., died Jan. 3 at the Pensacola Hospital after several weeks' painful illness resulting from the amputation of his right leg. He was born in Mt. Sterling, Ala., in 1854 and came to Pensacola at the age of twelve, becoming the apprentice of Dr. H. C. Cushman, in whose employ he learned the drug business. He had been in business for himself for fifty years. Dr. D'Alemberte is survived by a sister, two brothers and four sons.

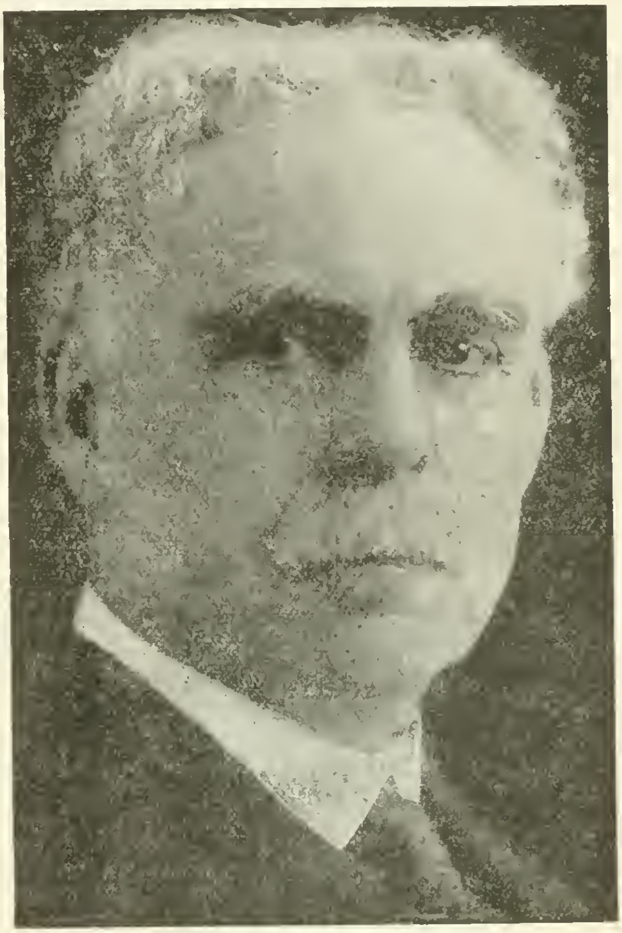
Edward C. Maclaurin, president of the Massachusetts Institute of Technology, Boston, died of pneumonia recently. He was forty years of age, and was born in Scotland and educated at Cambridge University. He accepted the chair of mathematics in the University of New Zealand, but was called to Columbia University, New York, and then to the Massachusetts Institute of Technology. He had just succeeded in raising a $4,000,000 endowment fund, to which George Eastman added $4,000,000.

George W. Lattimer, of the Kauffman-Lattimer Co., Columbus, Ohio, importers and wholesale druggists, died on Feb. 13, at the age of sixty-four years. He was formerly secretary and treasurer of the Hocking Valley Mine Co. and in 1882 formed the firm of Kauffman, Lattimer & Rising. Mr. Lattimer was a member of the Board of Control of the National Wholesale Druggists' Association in 1901. He was elected vice-president in 1909 and president in 1913.

GEORGE P. ENGELHARD

George P. Engelhard, president of G .P. Engelhard & Co., publishers of "The Western Druggist," and one of the deans of western trade journalism, died Tuesday, Feb 10, at his home in Chicago.

Mr. Engelhard was born in Brooklyn, N. Y., in 1854, moving to West Bend., Wis., with his parents in 1857, where he received his early education. In 1873 he went to Chicago and secured employment as a printer in the office of the first one-cent newspaper in that city. Two years later, at the age of twenty-one, he accepted the managing editorship of a weekly trade paper, at the same time taking a course in the University of Chicago. In 1879 he began the publication of "The Western Druggist"; in 1888, "The Medical Standard," and in 1906, "The National Jeweler," at the same time entering the book publishing field.



The Late George P. Engelhard

Mr. Engelhard drafted the first Illinois pharmacy law and the pharmacy acts of several other Western States. He was very active in drug trade association activities, and was an honorary member of the Chicago Veteran Druggists' Association and a member of the American Pharmaceutical Association.

In the early 80's, he was especially active in the organization of State pharmaceutical associations in the Central West, which had for their object the securing of legislation and the enactment of State pharmacy laws. He attended many of the early meetings of various associations, where his advice and counsel were sought in drafting the pharmacy laws of that period.

MERRELL CO. ON DRUGGIST'S TURNOVER

The Wm. S. Merrell Company, Cincinnati, Ohio, state that the retail druggist can generally solve the problem of ascertaining his profit if he can determine the proportion his annual sales bear to the money he has invested in stock. If he has a $10,000 stock and $40,000 annual sales he will get along, for this is the average druggist's turnover. If his sales are only $30,000, he cannot, with normal expenses, make both ends meet, but if his sales are $60,000 or more, his business will be a success, provided his prices are fair and expenses normal.

It is good business, therefore, for the retailer to have as many articles called for as possible, but to keep in stock as few of each as he can without actually running out. In doing this the druggist spreads out his capital, multiplies his turnover, and increases his profit. By avoiding special contracts for large quantities of goods one has no immediate use for, and allowing the jobber to carry reserve stock, your money is kept moving and you will make money. Merrell pharmaceuticals bought in the normal way from the jobber, the manufacturer states, afford you a saving of 10 per cent. Specify Merrell's pharmaceuticals in your orders to your jobber.

An the annual meeting of the Druggists Mutual Fire Insurance Co., Cincinnati, Ohio, the following directors were elected: Philip Lohr, Cleveland; J. C. Firmin, Findlay and William S. Bannister, Toledo, Ohio. Other officers elected were: Philip Lohr, president; John C. Firmin, vice-president; C. L. McIntre, secretary and Robert Greenland, treasurer. The Board of Directors declared a continuance of the 45 per cent dividend for the ensuing year.

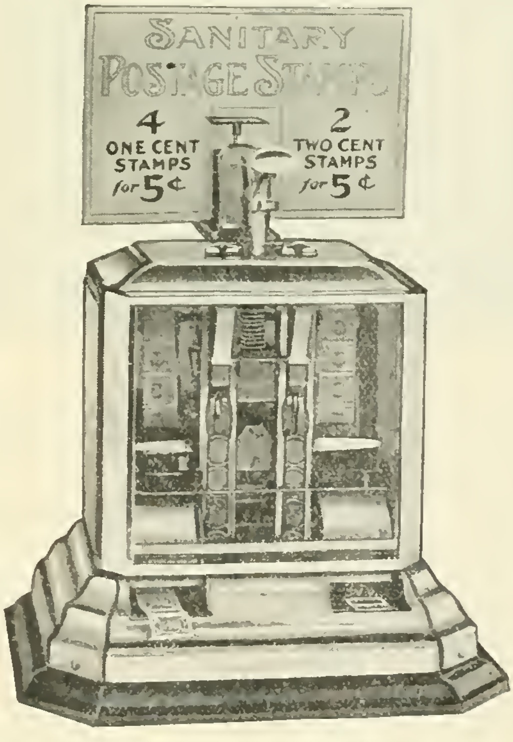
A BIG CASCARA CAMPAIGN

During 1920 the entire selling and advertising machinery of Parke, Davis & Company will be concentrated on two Cascara preparations—Cascara Evacuant and Fluid Extract of Cascara Sagrada (P. D. & Co.). These products will be detailed and sampled among physicians. They will be advertised in half a hundred medical journals—not once, but throughout the year. Direct-by-mail advertising will be used. Physicians in every section of the United States and Canada will be reached. They will be told and retold of the efficacy of Cascara Evacuant and Fluid Extract of Cascara Sagrada (P. D. & Co.).

What will be the result? Physicians will call for these cascara products and write prescriptions for them which will be filled in the stores of druggists who are alert enough to take advantage of the situation. Why not get the benefit of this big campaign and become the cascara headquarters in your locality?

SAYS TWO DYES ARE NEEDED

Commenting on some early failures of manufacturers, B. C. Blowney, , Cincinnati chemical man attending the annual convention of the National Association of Dyers and Cleaners said: "Misuse of American dyes caused all the trouble. If they didn't have a wool dye when they were making wool cloth, they would use a cotton dye and vice versa." Mr. Blowney's insistent declaration for two dyes finds responsive echoes in the selling plans of Diamond Dyes. The old concern of Wells & Richardson Co. says that separate dyes are required for permanent results—one for wool and another for cotton. One dozen free packages and five per cent discount are now given on all orders of Diamond Dyes in twelve-dozen lots—giving an 82 per cent profit for dealers.



Elegant in Appearance—100% Accurate

The Postage Stamp Problem

Is Solved by

The "Kone-Klutch" Stamp Machine

1. It supplies CLEAN stamps from regular government rolls.
2. It eliminates an IMPOSITION that has become a NUISANCE.
3. It pays a PROFIT where you formerly had a LOSS.
4. It saves the TIME of high priced clerks.
5. It does away with the SHRINKAGE in the postage stamp fund.

Let us tell you how you may get these results in your own store without fear of criticism from your trade.

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THE PHARMACEUTICAL ERA

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Practice of Pharmacy on Wheels

The suggestion to establish a system of drug stores on wheels, as proposed by Thomas V. Wooten at a meeting of the Rexall Club held recently in Memphis, Tenn., can scarcely be called an innovation, although some druggists might be inclined to look upon it as a Twentieth Century proposition. If the writings of Cicero and other classic authors are to be believed, prototypes of the proposed drug store on wheels—traveling *pharmacopoli* or *circumforancia*—journeyed up and down the old Roman roads and pathways, carrying their miscellaneous stocks of medicines and cure-alls to the outposts of the Latin Empire. Too often these drug peddlers were looked upon as mountebanks or quacks, yet no one can say that they were not a product of the civilization of which they were a part. Mr. Wooten's proposition to revive the traveling druggist is, therefore, of historic interest, furnishing, as it does, a curious commentary on the tendency of the human race to return to paths once traveled by forgotten generations.

In the present age however, conditions are far different than they were when the *seplasiarii* prepared and sold ointments in ancient Rome. Then the drug business, if such it could be called, was not surrounded by multitudinous restrictions, and any one could sell such medicaments as he willed. To-day this freedom of action does not obtain, and it is difficult to believe that a highly successful drug store on wheels can find a place under the operation of present day pharmacy laws. It is possible for the peddler to sell ready-packaged proprietaries, flavoring extracts, cosmetics and the like from a wagon, for he is doing this very thing in some sections of the country at the present time. But the prescriptionist whom Mr. Wooten would have accompany the outfit would find his occupation largely missing. That this would be the case, it is not difficult to foresee. The country doctor usually furnishes his own medicines, but should he perchance write a prescription, it is not probable that the patient could "wait for the wagon" to have the remedy compounded.

As we see it, the idea of a full-fledged drug store on wheels is not likely to be realized, even in rural communities. In some of the States pharmacy laws require the registration of fixed places of business, while generally throughout the country a multiplicity of local licenses must be secured by those who would ply their trade from door to door. Nor is it likely that narcotic and liquor regulations could be amended to fit the traveling pharmacist. The modern drug store is a product of an urban civilization, and to place it upon wheels and start it wandering up and down the face of the earth would be to divest it of its real pharmaceutical and professional character. Any talkative salesman can sell patent medicines and the host of sidelines carried by many modern druggists, but the chances are against the traveling prescriptionist being compelled to pay a heavy income tax on the gains he may derive from the practice of pharmacy on wheels.

Necessity for Pharmacy Organizations

Probably no organized body of pharmacists has more to its credit for the advancement of pharmacy than has the British Pharmaceutical Society. But creditable as this record has been, it would appear from the recent report of the registrar of the society that not all British pharmacists are supporters of the organization, their attitude toward it being indicated by the following figures, taken from the registrar's report, which shows the rate of annual increase of membership for the nine years ending 1919.

1911, 7371; 1912, 7522; 1913, 7788; 1914, 8175; 1915, 8312; 1916, 8592; 1917, 9484; 1918, 9633; 1919, 9938. According to the report, the present membership of the society now amounts to 59.73 per cent of the total number of persons on the register of pharmaceutical chemists and chemists and druggists, the two classes of registered practitioners in Great Britain.

In commenting on these figures, the editor of the society's journal has this to say; "But favorably as this percentage compares with that of a decade ago, it is regrettable that even yet, with repeated recent proofs of the practical value of the Society before them, so many registered men in actual pharmaceutical practice should hold aloof from and neglect their paramount duty to the one great and stable organization in pharmacy which has done so much to protect and promote the legal and professional rights and claims of pharmacists."

Any one familiar with the attitude of pharmacists in this country toward pharmaceutical organizations will appreciate the justness of this criticism, although this aloofness is far greater here than in the British Isles, the percentage of registered men holding membership in National and State associations being shockingly low. Except in a few States where all registered pharmacists by virtue of their licenses are members of the State association, probably not twenty-five per cent of the qualified men take any particular interest in organization work.

It is difficult to understand this general aloofness of pharmacists. Holding membership in no incorporated organization they are shut out from taking an active part in making the Pharmacopoeia which provides the standards of the drugs and preparations they must dispense, a work in which self-interest alone should prompt them to take part. But so it is. The knowledge of these conditions has, in the past, dampened the ardor of a few workers who have devoted time and ability to the advancement of the profession.

No one should lose heart in the outcome, however, as the results of the World War have taught some pharmacists to study problems they never considered before. These may note that activity in organization work is the dominating idea directing future progress. The world is working along this line as it never worked before. If pharmacists can catch the full significance of this movement, they will appreciate the necessity of strong organizations for mutual protection and the common good and they will join forthwith.

Liquor Regulations and the Pharmacist

The liquor regulations recently issued by the Federal Prohibition Commissioner relative to intoxicating liquor under the provisions of the Volstead Act passed last year, an abstract of which appears in this month's Era, are far-reaching in scope. In their application to the practice of pharmacy they prescribe a minutiae of detail never before enjoined upon any calling. It is obvious in any study of these regulations that the authorities expect an accounting for every ounce of liquor which may become a part of the druggist's stock for use either in manufacturing pharmaceutical preparations or for medicinal purposes on physicians' prescriptions. The law and regulations make it very plain that under no conditions can intoxicating liquor be sold for beverage purposes.

Pharmacists as a class have not hastened to take out permits to furnish liquors on prescription under the regulations. The reason for this is obvious. Many of them have openly expressed the belief that the handling of liquors exclusively by pharmacists would ultimately bring reproach to their calling, for the internal revenue law has designated them as "liquor dealers" and requires them to pay a special tax and to keep a special tax stamp as such conspicuously posted in their places of business. As a result of this attitude on the part of the druggists, there has developed in some sections of the country a demand for the establishment of Government distributing stations to supply liquors dispensed on physicians' prescriptions. This demand has doubtless been further emphasized by the charges of profiteering that have been made in some quarters against some druggists in the filling of liquor prescriptions, but such charges cannot be maintained against druggists as a class. The great majority of druggists do not want to sell liquor under any circumstances.

On the other hand, the pharmacist must have alcohol and wines for manufacturing legitimate medicinal and pharmaceutical preparations, and if he does elect to sell intoxicating liquors on physicians' prescriptions, he must make every effort to comply with the regulations and do his part in an honest and intelligent manner. It is incumbent upon him to familiarize himself with the full requirements of Regulations 60, the principal points of which are emphasized in the abstract to which reference has been made.

Characteristics of Certain Specialties

The Composition of Some Commercial Preparations Commonly Handled by the Retail Druggist

By GEORGE E. EWE, Pharmaceutical Laboratories of H. K. Mulford Company, Philadelphia

THIS information is offered as a matter of interest to retail druggists who handle these types of preparations, the chemical nature of which is not indicated on the labels or in the literature of the preparations.

No intention is entertained to expose the formula of any specific market preparation and every care has been taken to prevent this by eliminating all of the names of the preparations and all characteristic quotations from their labels or literature.

No attempt has been made to carry out the chemical examination to such a minute and exhaustive degree as to include even the exact proportions of inert ingredients and impurities of the several constituents, but content was had when the essential ingredients were discovered and determined in fair conformity to their quantitative presence in the preparations.

In each case where the chemical examination is translated into terms of a facsimile preparation and the results obtained by the facsimile preparation are stated, the results were in satisfactory accord with the results yielded by the commercial preparation; thus the results essentially verified the general composition as brought out in the analysis. Where no statement of results obtained by the fac-simile preparation is made, the writer disclaims all responsibility for any untoward effects obtained through the practical use of this information.

Composition of a Commercial Linoleum Dressing

Label recommended the dressing for use on linoleum, oil cloth, automobiles, metal and furniture. Its chief use was to clean linoleum and preserve the pliability of the linoleum.

Method of use:—To be well shaken and applied with a cloth, allowed to dry and polished with a dry cloth or weighted brush.

Description:—A pale, dirty-yellow, thin, oily liquid, which deposited a voluminous gelatinous sediment upon standing.

Odor:—Turpentine.

Residue upon evaporation, followed by drying at 120° C:—6.26 Gms. per 100 c.c.

Character of residue upon evaporation:—A hard, light yellow waxy solid, melting between 76-77° C. and consisting of a wax or mixture of waxes. The high melting interval suggested carnauba wax (84-86° C.) although some candelilla wax (71° C.) may have been present.

The use of waxes with high melting intervals would also be indicated for the reason that they are much harder and take a higher polish than waxes with lower melting intervals which are inclined to be greasy.

Distillation test:—Started to distill at 158° C.; 86% between 158-170° C.; 4% between 170-300° C.

Character of distillates:—The distillate between 158-170° C. consisted of turpentine. That between 170-300° C. also consisted largely of turpentine which was not completely driven over between 158-170° C.

Analysis:—

Waxy substances	6.26 Gms.
Turpentine (158-170° C.)	86.00 c.c.
Distillate 170-300° C. (chiefly turpentine)	4.00 c.c.
Left in distillation flask, lost upon distillation, etc. (undetermined-matter) (by diff.) approx.	3.74 c.c.
Total	100.00 c.c.

The undetermined matter amounted to about 4% of the dressing and consisted of volatile matter. Since it is usual for about 5% or less of a liquid to be left in the flask as vapor, when a distillation of one comparatively small charge is conducted, it is highly probable that the undetermined matter was chiefly turpentine.

Conclusions:—The linoleum dressing consisted of a mixture of wax and turpentine. It was closely simulated by heating 6.26 Gms. of a cheap quality of carnauba wax in enough turpentine to make 100 c.c., to a temperature of 95° C. (avoiding contact with flame) until the carnauba wax was dissolved as far as possible, then straining and agitating until cold.

The fac-simile so prepared was equal in effectiveness to the original dressing. Neither yielded a shiny surface to linoleum except under the influence of laborious brushing or rubbing.

Other waxes were investigated in an attempt to produce a dressing which would not require so much labor and Japan wax was found to be admirable for this purpose, but had the defect of being a trifle greasy. It yielded a high polish, but the polish was easily marred. By using equal parts of Japan and carnauba wax these defects were largely overcome and a product resulted which gave a higher polish than the original dressing; the polish was not greasy; the dressing dried as rapidly as the original, the appearance, color and odor were quite similar to the original and the fac-simile was cheaper than a product made with carnauba wax alone.

White and yellow beeswaxes were almost as effective as the original dressing, but not as effective as the fac-simile product.

Paraffin yielded a product which retained the turpentine too long; the linoleum remaining "wet" and delaying the polishing process. In addition it was greasy and did not polish well

Analyses of 3 Commercial Embalming Fluids

Fluid No. 1.

A fluid claiming to be the greatest tissue preserver, germicide and antiseptic ever discovered, yielded the following analysis:—

Description:—A pink liquid containing a pinkish, gelatinous sediment; having odor of formaldehyde.

Reaction to litmus:—Barely acid.

Analysis of filtered product:—

Formaldehyde (CHOH)	36.5%
Pink coal tar dye	trace
Difference (Water, methyl alcohol, chiefly) q.s.	100.0%

Analysis of the pinkish gelatinous sediment indicated that it consisted of paraformaldehyde.

The pinkish coal tar dye was pink in acid solution and yellow in alkaline solution. No residue was left upon evaporation of the fluid and igniting the residue of paraformaldehyde.

The fluid therefore consisted essentially of a solution of formaldehyde partially polymerized and colored with a pink coal tar dye.

Fluid No. 2.

A fluid claiming to be a powerful preservative, disinfectant and deodorizer.

Description:—An orange-red liquid with odor of formaldehyde.

Reaction:—Slightly acid.

Analysis:—

Formaldehyde (CHOH)	33.81 %
Salicylic acid (free)	5.175%
Sodium salicylate	1.283%
Sodium borate (anhydrous)	3.360%
Color	trace
Fe_2O_3	trace
Chloride	trace
Difference (chiefly methyl alcohol and water) q.s.	100.00 %
Residue upon ignition, 1.281%	

The color was not due to a coal tar dye but was probably due to the action of the trace of iron and sunlight on the salicylates in the preparation.

Therefore the fluid consisted essentially of a solution of formaldehyde, salicylic acid, sodium salicylate and sodium borate in water and colored reddish by means of an iron salt.

Fluid No. 3.

A fluid claiming to be a "Concentrated Embalming Fluid."

Description:—A clear, red colored aqueous liquid with odor of formaldehyde.

Analysis:—

Formaldehyde (CHOH)	30.9%
Sodium borate (anhydrous)	5.0%
Red color	q.s.
Difference (chiefly water and methyl alcohol) q.s.	100.0
Total	100.0%

Therefore, the fluid consisted essentially of a colored aqueous solution of formaldehyde and borax.

Flashlight Powders for Color Photography

Description:—Consisted of 2 "powders," marked "A" and "B" respectively.

In using the powders, 45 Gms. of "A" and 55 Gms. of "B" are mixed with a spatula.

Examination of "A" Powder.

Description:—A silvery metallic powder.

Analysis:—

Magnesium (metallic powdered)	60%
Aluminum (metallic, powdered)	40%
Total	100%

Examination of "B" Powder.

Description:—A pinkish-brown fine powder.

Analysis:—

Strontium nitrate	74.9%
Potassium nitrate	20.0%
Ferric oxide	5.1%
Total	100.0%

Fac-simile powders were prepared in accordance with the analyses as follows: —

"A"	
Metallic magnesium powder	27 Gms.
Metallic aluminum powder	18 Gms.
Total	45 Gms.
"B"	
Strontium nitrate, powdered	41.2 Gms.
Potassium nitrate, powdered	11.0 Gms.
Jewelers Rouge (ferric oxide)	2.8 Gms.
Total	55.0 Gms.

Practical trial of these fac-simile powders yielded results comparing very favorably with those yielded by the original.

The original two powders sold for $2.50.

Non-Inflammable Cleaning Liquid

Recommended for removing grease-spots on cloth, etc.

The liquid was thin and mobile, possessed a straw color and a carbon-tetrachloride odor. It distilled completely between 76-76.25° C. and consisted entirely or practically entirely of carbon-tetrachloride.

Composition of a Commercial Rat Exterminator

Description:—A yellowish-gray non-homogenous mixture of powders, practically without odor.

Analysis:—Consists of a mixture of barium chloride, calcium sulphate and a starchy meal (probably corn meal). Contains no heavy metals, arsenic or alkaloids.

No evidence of its efficacy for its advertised purpose was obtained.

Cleansing Toilet Cream

Description:—A light yellow greasy, translucent mass of a trifle firmer consistency than petrolatum and having an odor of rose geranium.

Acid value:—nil.

Saponification value:—None.

Consisted essentially of a light yellow petrolatum of a trifle firmer consistency than U.S.P. petrolatum

A similar product was prepared by melting 5 parts of paraffin (which was plastic under the heat of the hands) adding 95 parts of white petrolatum, mixing, (taking care not to beat air into the mixture), straining, if necessary, cooling somewhat, perfuming with oil rose geranium and allowing to cool without agitation.

The original Cream was marketed in a 2-oz. fancy jar at 65c. About 3 lbs. of this fac-simile preparation can be prepared for 65c.

Remover for Excess Cuticle

This remover was directed to be used by the application to the excess cuticle, allowing it to remain for a few moments and then wiping the softened cuticle away with a soft wooden stick.

Description:—A clear, colorless slightly viscous liquid, slightly perfumed and having a sharp, sweet, alkaline taste.

Reaction:—Strongly alkaline.

Qualitative tests showed the presence of potassium hydroxide, glycerin, perfume and water.

A fair fac-simile was prepared as follows:—

Potassium hydroxide	5 Gms.
Glycerin	50 c.c.
Perfume	q.s.
Water	q.s. 100 c.c.

While the glycerin seems to be rather high in proportion in this formula, yet it is quite essential since if less is used the softened cuticle is apt to dry out and become hard again before it can be removed.

Sodium hydroxide, while effective to some extent, does not yield as satisfactory results as the same weight of potassium hydroxide.

It is necessary to wash the hands after using this remover in order to get rid of the caustic and prevent it from removing the polish from the nails.

Dye for Dead-White Hair

Dead-white hair can be given a more attractive silver grey color by the use of a certain commercial preparation.

Examination of this preparation indicated that it consisted of a solution of dye-stuff, kept in a state of "reduction" by sulphurous acid. The theory of its use was that when employed on the hair it would come into contact with the air, which would drive off the excess of sulphurous acid and permit the dye-stuff to return to its original color by oxidation.

The following formula yields a fairly satisfactory product of this type:—

Eaton's acid violet B	10 Gms.
Sodium bisulphite, crystal	10 Gms.
Distilled water q.s.	1,000 c.c.
Sulphur dioxide Gas q.s.	

Dissolve the dye and bisulphite in water and pass in the sulphur dioxide gas until the color is almost discharged and the solution is completely saturated with the gas; then add a few grains of animal charcoal to remove the last traces of color The work of passing the gas into the solution must be performed in a fume hood. The finished product must be kept securely stoppered to prevent loss of sulphur dioxide and subsequent oxidation of the dye-stuff.

Responsibility is hereby disclaimed for any damages which might result from the manufacture, sale or use of a product of this formula, as my experience with it is limited to manufacture of very small lots, no sales have been made and only a few cases have been treated, although these few were successful.

Fly and Lice Spray for Cattle

Label claims "An Antiseptic Coal Tar Preparation."

The "spray" consisted essentially of a coal tar creosote oil containing 6.5% of tar acids (chiefly cresol).

Fly Repellant Spray

Description:—A thick, black oily liquid with greenish fluorescence and crude oil and coal tar odor.

The "spray" consisted essentially of a mixture of crude oil and coal tar creosote oil. It contained about 4% of tar acids (chiefly cresol).

Insecticides

One insecticide consisted of a thin, yellow oily liquid with complex odor, suggestive of citronella, nitrobenzene, turpentine, benzene and tar and was claimed to kill bed bugs, roaches, moths, ants, etc.

Analysis:—

Phenols	3.6%
Sulphonatable oils	81.4%
Unsulphonatable hydrocarbons	15.0%
Flavoring materials	q.s.
Total	100.0%

The mixture of sulphonatable oils and unsulphonatable hydrocarbons was neutral, started to distill at 165° C. and required as high as 360° C. to practically completely distill it. The increase in temperature during distillation was regular. The sulphonatable oils appeared to be derived from "pine oil" and kerosene, chiefly the former. Likewise, the unsulphonatable hydrocarbons also appeared to be derived from "pine oil" and kerosene, chiefly from the latter.

The phenols may have been added as such or may have been a constituent of some added "wood tar creosote oil," which would also account for the tarry odor of the preparation.

The preparation left no residue upon ignition. It dried out without leaving any stain or stickiness.

A mixture of 1.25% cresol, 50% of "pine oil," flavoring proportions of oil citronella, nitrobenzene, "wood tar creosote oil," and kerosene q.s. 100% yielded a quite similar product. The "pine-oil" selected for this purpose must not stain or leave a sticky residue upon drying out. If this grade is not readily obtainable, kerosene should be substituted for the "pine oil."

A second insecticide was recommended for the extermination of flies and lice on farm stock when applied as a spray. This second insecticide contained similar constituents to the insecticide mentioned above but in different proportions. The analysis indicated the following constituents:—

Phenols	1.25%
Sulphonatable oils	60.75%
Unsulphonatable hydrocarbons	38.00%
Flavoring materials	Small proportion
Total	100.00%

A mixture of 1.25% cresol, 50% of "pine oil" flavoring proportions of oil of citronella, nitrobenzene. "wood tar creosote oil" and kerosene q.s. 100% yielded a quite similar product.

A third insecticide claimed to be a disinfectant and was recommended for the extermination of bugs, flies and all kinds of vermin, when used as a spray.

Description:—A thin. brownish. non-fluorescent, yellow, oily liquid with complex odor of nitrobenzene, kerosene, citronella, etc., somewhat similar to the two preceding insecticides.

In general this third product also contained constituents similar to those of the two preceding products but in different proportions.

Analysis:—

Phenols	4%
Sulphonatable oils	22%
Unsulphonatable hydrocarbons	74%
Flavoring materials, q.s.	
Total	100%

The phenol coefficient of this product was not determined.

A mixture of 4% cresol, 10% of "pine oil," flavoring proportions of oil of citronella, nitrobenzene, "wood tar creosote oil" and kerosene, q.s. 100% yielded a quite similar product.

Liquid Disinfectant

A colorless, aqueous liquid with a chlorine odor, labeled "most powerful and effective germicide, antiseptic, deodorant, disinfectant. Non-poisonous" consisted of our old friend "Liquor Sodae-Chlorinatae U.S.P.," containing 2.193% of available chlorine.

Toilet Hopper Cleaner

Description:—A white, granular powder with strong odor of hydrochloric acid and strong acid taste. Soluble in water, leaving a negligible siliceous residue.

Reaction:—Strong acid.

Analysis:—Is a mixture of commercial sodium bisulphate and sodium chloride in molecular proportion to liberate all of the hydrochloric acid from the sodium chloride.

The theory of the use of the Cleaner consists of the liberation of hydrochloric acid in a nascent state when the Cleaner is added to water in the hopper; hydrochloric acid being an excellent cleanser for porcelain or porcelain-lined articles.

Commercial "Cleanser" and Germ and Odor Killer

Description:—A greenish-grey, non-homogeneous mixture of powders with characteristic odor of crude potassium permanganate. Soluble in water to a deep purple solution.

Reaction:—Alkaline.

Qualitative analysis:—Consists of a mixture of potassium permanganate, manganate, and sodium carbonate with a very small proportion of chloride or chlorate. However, if a mixture of potassium permanganate, potassium manganate, sodium carbonate and potassium chlorate is made in essentially the same proportions as present in the preparation, a pinkish-white powder and not a greenish-grey powder is produced. In order to develop the characteristic greenish-grey color, it is necessary to heat the mixture a little above 100° C. until the proper color is obtained. The heating must not be continued too long, as otherwise all of the permanganate will be altered to manganate and greenish solutions will be yielded by the preparation instead of the characteristic deep purple solutions yielded by the original preparation.

A mixture of 1 part of potassium permanganate, 6 parts anhydrous sodium carbonate, and 0.14 part of potassium chlorate, when heated at 102° C. for seven hours and then at 180° C. for one hour, yielded a slate colored powder resembling the original preparation in solubility and color of aqueous solution, and possessed a phenol coefficient of 10.9 as against 6.3 for the original preparation.

Whether the heating treatment was required to increase the phenol coefficient was not determined, as the more likely reason for heating was to impart a distinctive color to the product.

Preservative for Fruit and Vegetable Home Canning

Description:—A fine, white odorless powder with faintly acid, saline taste.

Analysis:—

Boric acid	94.3%
Benzoic acid	0.4%
Sodium chloride	5.3%
Total	100.0%

The benzoic acid content was calculated from the benzoic acid determination and may be present as sodium benzoate. The sodium chloride was calculated from the chlorine determination, so that a part of the chlorine may be present as impurities.

Therefore, the preservative consists essentially of a mixture of 94.3 parts of boric acid, 0.4 part benzoic acid (or equivalent of sodium benzoate) and 5.3 parts of sodium chloride.

The use of boric acid for the purpose of preserving food intended for human consumption has long been condemned. The National Food and Drugs Act prohibits the use of boric acid in foods. Most, if not quite all, of the States prohibit the use of boric acid in milk and milk testing laboratories usually apply a routine test for this preservative.

The Chemical Laboratory of the American Medical Association examined a preservative of this type in 1911 and commented upon it as follows in the Reports of the Chemical Laboratory of the A. M. A., Vol. IV, January-December, 1911:—"The housewife who uses this mixture does so, of course, not knowing that the chemical she is putting into her foods has been declared injurious as a food preservative by the federal government Neither does she realize that she is paying for what is essentially boric acid worth 15c a pound at the rate of $1.60 a pound."

Uses of Calcium Chloride

CALCIUM chloride is made from natural brines produced in various parts of the country, the same brines also yielding salt and bromine. The quantity of calcium chloride produced in 1916 amounted to 26,062 short tons, valued at $216,729, or an average price per ton of $8.31. These figures do not take into consideration the calcium chloride obtained in the manufacture of soda as a by-product, much of which has been wasted. It is hoped that new uses may be found to prevent the waste of this by-product.

Among the more important uses of calcium chloride are the following, but no data are at hand to show the quantity consumed for each use:

Prevention of Dust

Because of its strong affinity for water, a sprinkling with calcium chloride will keep a road moist and therefore dustless for several weeks. In such climatic changes as prevail in the North Atlantic States four applications during the sprinkling seasons under normal conditions keep a road free from dust and obviate the necessity of daily wetting with water. One thousand gallons of 20 per cent solution made with 3 pounds of calcium chloride to the gallon of water will suffice for the first application on a 24-foot road for a length of 125 yards. For later applications 400 gallons will suffice. It may be used on tennis courts and other playgrounds for the same purpose.

Interesting Features of Digitalis*

Mystery of Drug Still a Live Subject and Presents Several Questions for Answer

By HERBERT C. HAMILTON

When Dr. Kraemer wrote asking me to talk on digitalis, I thought to myself, "What is the mystery about digitalis that has kept it a live subject through all these 130 years since Withering first brought it to public notice?"

For the physician there are uncertainties, such as how to avoid the long wait for its effect, how to avoid cumulative effects, whether its pressor action will permit its use in a particular case,—in other words, is it indicated or not?

To the pharmacologist, the question is, how does it act on the animal body, and how can this action best be measured—by frogs, guinea pigs, cats or gold fish?

It may be that Parke, Davis & Company, Eli Lilly & Company, H. K. Mulford Company, and others, who apply these tests, are satisfied of their competence to discriminate between the good, the poor, and the bad, but Hatcher says, that the cold-blooded are too unlike humans to be used for testing—use cats; Newcomb says, "Use cats, but do it differently." Then Pittenger, without discrediting their guinea pig test, suggests gold fish. In the words of the flustered Senator—Where are we at?

To the pharmacist the question may be—Why should we submit this carefully prepared tincture to the cold-blooded decision of a cageful of frogs, or even to a cat?

The chemist, the botanist, and by no means last or least, the earnest student, each finds an ever present mystery in this well known drug, this beautiful garden plant, this diuretic, purgative, pressor agent and heart tonic.

If we consider only the one question of the active agents contained, there is food for reflection. Each investigator, if he is a real one and doesn't stick to it too long, will add at least one new principle and throw doubts on most of those previously mentioned. A bibliography of the work on digitalis would lead one to suppose everything knowable was already known. Even the work of one man, as of Kiliani, Schmiedeberg or Cloetta, is enough to make one stop and wonder—what is the mystery that defies solution?

Species of Digitalis

There are a number of different species of digitalis, only a few of which it has been my privilege to examine. Of six varieties of seed planted, only one grew. This one is very hardy and very unattractive in bloom. It has the common characteristics of being a biennial, blooming the second year. The leaves are smooth and narrow with about double the proportion of solid residue in the dried leaf as that remaining in the official plant. It is also about twice as active as the average imported crude drug, but appears to be identical in the quality of its action. It resembles *Digitalis Siberica*, but differs in the color of the blossoms, which are a nondescript gray without any beauty.

Another species that came to my attention identified by the botanist as *Digitalis Thapsi*, has more resemblance to strophanthus in having slight effect on blood pressure. It has had little notice by either pharmacologists or clinicians.

The question of why *Digitalis purpurea* was selected as the sole official species is another of the mysteries, (to me) although possibly explainable on the grounds of its more general occurrence and the size and beauty of the plant. The part first employed in medicine was the root of the second year plant.

Lloyd says; "Originally both the root and the leaf were employed in medicine. The root, however, is exceedingly variable in structure, that of the first year's growth being insignificant and sappy, whilst the root of the second-year's growth is larger and heavier. Inasmuch as the leaf possesses fully the qualities of the drug and is more easily collected, it naturally displaced the root in medicine. Thus the preference once given to the second year's growth of the root created both the confusion and the prejudice whereby the leaf of the first year was finally ostracised."

Fiction of Second Year Growth

Digitalis, official, is now the *leaves* of *second*-year plants, but on several occasions I have tested the first year leaves and found an activity equal to that of the average second year plants. The fiction probably was invented to prevent destroying the young plants from which only a limited number of leaves could be gathered compared to the yield of the older plant.

Roth ("Public Health Reports") has also found that native-grown first-year plants have high medicinal value.

The native wild digitalis of Oregon and Washington is usually of higher activity than imported digitalis. My first experiments with this were almost unbelievable, for I found it two to three times as active as commercial lots. During the war, the University of Washington did its bit in augmenting the supplies for the Army and Navy. Also in the plant gardens of your own University and in those of Minnesota, high quality drug has been grown.

"Standardization"

Reference to comparative activities logically leads to a discussion of the methods of standardization. One of my earliest recollections in connection with physiological testing was a wordy war between representatives of two manufacturing houses for and against. There seems little reason for anyone in these days to question the value of this step. Certain methods may be questionable, but the idea underlying them cannot be seriously disputed. However, let me quote you a paragraph from a discussion on digitalis last summer in New York. Dr. Diner speaking:—"It merely brings home to us again the fact that the pharmacologists have been getting into a rut and the sooner they get out of the rut the better it will be for humanity. Animal experimentation has its proper place but in my opinion, animal standardization as it is carried out to-day is not right. We are not interested in killing the cat or dog or frog or gold fish. We are interested in obtaining certain therapeutic effects upon the pathological heart. . . . It is true we cannot use men for standardization, but we can use them for clinical observation. Upon that and that alone should we base our final answer."

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*Address before the Prescott Club, University of Michigan.

The reply was substantially to the effect that in pharmacological assaying we are attempting only to measure activity in terms of the most measurable reaction of the drugs on an animal which reacts in a characteristic manner to the drug. No attempt is being made to establish a system of dosage nor is there any relationship between the doses used in the test and the therapeutic dose.

The process is to be regarded as similar to a chemical assay for alkaloids by which a certain amount of acid combines with and is equivalent to the alkaloid present.

This shows that, even to-day, with the physician insisting on standardized medicinals, with the manufacturers vieing with each other to produce high grade products, with the ultimate consumer, ignorant perhaps, but certainly hopeful that the needed medicine for which he no doubt paid an apparently exorbitant price, will do what the physician expects—there are some skeptics. Does it seem to you possible that there is any intelligent man still willing to decry the physiological test? Physicians have said to me that they thought every preparation should be tested physiologically if such a test is applicable. This, however, is an extreme view.

Dr. E. M. Houghton while still at this University conceived the idea of applying such tests to the drugs not amenable to assay. In 1894 he became connected with Parke, Davis & Company to put his ideas into practice. The first of the drugs so standardized was digitalis, the method being the M.L.D. (minimum lethal dose) frog-heart method. This while not identical with the official M.L.D. method for digitalis, gives practically identical results since our standards are identical with those selected by the U.S.P. Revision Committee.

Comparison of Methods

You, perhaps, will at once say that this is not the official method, but our standard and the U.S.P. are identical, so evidently the two methods give the same results. Careful experiments by which the activities of digitalis heart tonics were determined by the two methods have led us to conclude that as your own Dr. Edmunds said: "Between these two methods, it is largely a question of personal preference and convenience." Each has its good points and just as truly each has its bad. Each will tell, with only slight error, how active a preparation is—an error much less than is detectable by a physician.

It is largely a question of familiarity with the method. Practice and long experience with either will give degrees of accuracy not greatly different.

The M.L.D. as compared with the One-Hour official method requires more frogs, but less actual time for the work; it eliminates three objectionable features of the One-Hour method—the question of complete absorption, the rough handling and pithing of frogs, and the often puzzling question of the correct reading of the end-point.

When a frog is dead, it's dead. It is easy to verify the correctness of the end-point by observing the condition of the heart of frogs which die from the smallest doses. If not in systole, then this casualty should form no part of the record.

On the other hand, the heart one hour after an injection is often neither stopped nor beating regularly; the results being thus open to question until much experience is gained. Even much experience will not assure correctness of conclusion. This is really no subject for controversy, however, for the results by either method can be accurate within reasonable limits of error.

Variation of Methods

The same can probably be said of Hatcher's Cat Method or Pittenger's Gold Fish Method. When carried out carefully by an experienced operator, the results would not probably have wide variation. The Chairman of the A.Ph.A. Committee on Physiological Tests reported unofficially to me that three members using different methods agreed with a maximum error of 6 per cent on a sample of tincture digitalis compared with a sample of ouabain as standard. Probably, in no instance under these conditions would one method be found preeminently better or worse than the others. Heintz even suggested applying more than one method with the thought that the different methods do not measure the same properties of the drug.

Clinical data, if it could be obtained unobscured by variants such as the human factor, both of patient and of physician, would forever set at rest these quibbles, but this is probably Utopian. It is really unnecessary, for if the problem were taken up dispassionately, pharmacologists could easily settle it among themselves. This, too, is no doubt Utopian, for the so-called originator of a method is loath to relinquish the honor. Not even Pharmacopoeial authority is sufficient to force adherence to an unpopular method, or to limit the proposal of new ones.

Fagge and Stevenson in 1866 used a method for examining samples of digitalis practically identical with that later described and known as Focke's Method.

Koppe in 1875 also working on the active agents of digitalis used such amounts as would induce vomiting in cats and dogs—a method later described by Hatcher.

(To Be Continued)

Prohibition Regulations for Retail Druggists

Definition of Intoxicating Liquor Principal Feature of Federal Act

IN multiplicity of detail and provisions relating to what the druggist must do and must not do in his attempt to carry out the intent of the National Prohibition Enforcement Act, the regulations issued by the Federal Prohibition Commissioner cooperating with the Bureau of Internal Revenue, mark an advanced position in the application of regulatory measures and Governmental direction to the manner of conducting the drug business. So complex are these regulations that the druggist must devote considerable study to them in order that he may carry out the requirements, obey the law and steer clear of the many pitfalls which a non-observance of the regulations hold out for him. While all druggists should secure a copy of "Regulations 60," and familiarize themselves with it in its entirety, the following abstract has been prepared to point out those paragraphs which more particularly concern the druggist in his business as a compounder and prescriptionist.

To comply with the Federal Prohibition Law the druggist who desires to sell intoxicating liquor for medicinal purposes or use it in the manufacture of medicinal preparations or nonbeverage compounds, must:

1. *Make application for permit in triplicate, Form* 1404, *all copies of which must be signed by the applicant, the original being sworn to before a person authorized to administer oaths, and forward all three copies to the Director of the State in which the applicant's business is located.*
2. *File a bond in duplicate on Form* 1408 *or* 1409 *to insure compliance with the provisions of the Act and to cover any taxes or penalties which may be imposed under the internal revenue laws.*
3. *Secure special tax stamp* ($25) *showing payment of tax as liquor dealer (only if he sells).*
4. *Procure intoxicating liquor to be dispensed or used in the manner and for the purposes stated in the application (when permit is received) from authorized person.*
5. *Procure and keep all official records required by the Bureau of Internal Revenue and the Federal Prohibition Commissioner.*
6. *Prepare and send transcript of such records in the manner provided to the Director for the State before the* 10*th of each month.*

Defining Intoxicating Liquors

Article 1 defines the various terms used in the National Prohibition Act. Of these the most important, perhaps, is that which defines "liquor or intoxicating liquor," as including, *alcohol, brandy, whisky, rum, gin, beer, ale, porter, and wine, and in addition thereto, any spirituous, vinous, malt, or fermented liquor, liquids, and compounds, whether medicated, proprietary, patented, or not, and by whatever name called, containing one-half of 1 per cent or more of alcohol by volume which are fit for use for beverage purposes.*

This definition does not include denatured alcohol or denatured rum; vinegar; medicinal and other alcoholic preparations which are unfit for use as beverages or for intoxicating beverage purposes according to the standards prescribed in Article 11; preserved sweet cider; dealcoholized wine; nor any beverages or liquids produced by the process by which beer, ale, porter or wine is produced which contain less than one-half of 1 per cent of alcohol by volume, providing such beverages are not denominated as beer, ale, or porter.

Manufacture and Traffic in Liquors

Article 2 enumerates the kinds of intoxicating liquors, how they may be manufactured, sold, transported, used for non-beverage purposes, etc. The clauses of this article in which the druggist is most interested are those relating to the use of alcohol, whisky, etc., of medicinal preparations in accordance with the formulas of the U.S.P., N.F., or the American Institute of Homeopathy, which are unfit for beverage purposes; the manufacture of patented, proprietary and other medicines that are unfit for beverage purposes; the use of liquors by druggists for compounding prescriptions which are unfit for beverages; in the manufacture of toilet and antiseptic preparations; flavoring extracts and syrups, and for medication by druggists or pharmacists. Provision is made for the use of alcohol or liquors by retail druggists for dispensing on physicians' prescriptions. Intoxicating liquors may not be manufactured, sold, transported, imported, exported, delivered, furnished, or possessed for any other purpose than that specifically authorized under the commissioner's permit.

Obtaining Permits

Article 3 defines the procedure that must be followed to secure permits by persons who wish to manufacture, sell, prescribe, possess or use intoxicating liquors for non-beverage purposes. The application must be made to the local prohibition officers or the collector of internal revenue. All original applications must be sworn to, and the application must be made in triplicate, each signed by the applicant and all forwarded to the Director of the State in which the place of business of the applicant is located. All of the copies must be approved by the Director before any authorized persons may honor them.

The privileges conferred by the permits are as follows:

All permits to manufacture intoxicating liquor confer the right to sell, barter, deliver, furnish and possess the liquor manufactured under authority of such permits.

Permits to sell, use, import, or export liquors also confers the right to procure liquor upon furnishing permits to purchase and to possess such liquor for the purposes authorized in the permits.

Permits to sell intoxicating liquor also confer the right to barter, furnish, or deliver liquor, with or without sale, to persons presenting permits to purchase.

Permits to transport intoxicating liquor confer the right to possess and deliver the liquor transported or to be transported.

Permits to purchase intoxicating liquor convey the right to procure intoxicating liquor as provided in Article 8.

Permits to prescribe intoxicating liquor do not confer authority other than to prescribe.

Permits to sell may be combined with permits to import, export, or use

Bonds

Unless otherwise required by the Commissioner, no bonds need be filed by persons applying for the following permits:

1. Permits to prescribe, export, import, or transport intoxicating liquor.

2. Permits to use intoxicating liquor by physicians, dentists, or veterinarians in the course of their practice.
3. Permits to use intoxicating liquor in industrial or other establishments for administering to employes in emergency cases.
4. Permits to use intoxicating liquor in hospitals or sanitariums (excepting such hospitals or sanitariums as are engaged in the treatment of persons suffering from alcoholism).
5. Permits to procure alcoholic preparations mentioned in Article 17 in quantities greater than specified in such article.

Except as specifically provided otherwise, as in the cases of excepted permits noted above, all applicants for permits must file a bond, the basis of the penal sum being stated as follows:

$4.20 per proof gallon on distilled spirits and $100 for each 200 gallons, or fractional part thereof, on wine, malt liquor, cider or other liquor, manufactured or received during any quarterly period of the calendar year plus the quantity on hand at the end of the preceding quarterly period. In no case shall the penal sum of any bond be less than $1,000 nor more than $100,000.

Specified forms for the bond or bonds must be used, and when so made out will remain in force and effect for three years from the effective date of their execution.

Articles 4 and 5 of the regulations relate to the manufacture of distilled spirits and wine, and cider and vinegar. Article 6 relates to the manufacture of beverages containing less than one-half of 1 per cent of alcohol by volume from intoxicating liquor or by arrested fermentation, and Article 7, the procurement, disposition, and use of wines for sacramental purposes or like religious rites. Under Article 8, which outlines the procedure for procurement and delivery of intoxicating liquor by persons holding permits, it is provided that physicians of the homeopathic and eclectic schools, after obtaining permit to use alcohol or homeopathic potencies, attenuations, and dilutions in the course of their practice, may procure the same from homeopathic pharmacists or others having permit to sell, in the manner provided by the regulations. No physician can receive in excess of 15 gallons of alcohol or alcoholic preparations during any one calendar year. The homeopathic physician is required to fill out three copies of the order blanks, stating the exact quantity to be purchased, one copy of which must be attached to the blanket permit to purchase for the period held by him, and the original and one copy of the order form must be furnished to the homeopathic pharmacist who has on file one copy of the blanket permit to purchase. After delivery of the liquor, the pharmacist must note on each copy the date of shipment, filing one copy to the blanket permit and forwarding the original order blank to the Director of the State in which the physician is located. The responsibility of seeing that the total quantity received by such physician does not exceed the quantity indicated on his permit rests upon both the physician and the pharmacist authorized to make sales to him.

Articles 9 and 10 relate to wholesale dealers in intoxicating liquors and rectification of liquor respectively.

Use of Liquor in Manufacture of Medicinal Preparations

Under Article 11 provision is made for two classes of compounds; Those containing one-half of one per cent or more of alcohol by volume which are fit for use as beverages, and those compounds which contain one-half of one per cent or more of alcohol by volume which are unfit for use as beverages.

The principal test for the determination of whether a medicinal preparation is fit or unfit for beverage uses is given in the following paragraph:

> Such preparations must contain no more alcohol than is necessary for the purpose of extraction, solution or preservation, and must contain in each fluid ounce a dose as a whole or in compatible combination of one or more agents of recognized therapeutic value and contain no agents either chemically or physiologically incompatible with the active medicinal agents upon which the medicinal claims are based.

The following U.S.P. and N.F. preparations are held to be fit for beverage purposes, and while they may be made and sold for legitimate medicinal purposes, they may not be sold, purchased, bartered, transported, imported, exported, delivered, furnished, possessed or used except under the regulations governing the sale, transportation and dispensing of intoxicating liquor. In addition to the eighteen official preparations hereafter designated as intoxicating liquors, the regulations state that whenever any preparation, proprietary or patented medicine is held to be fit for beverage purposes, its sale will become subject to the rules governing intoxicating liquors.

Intoxicating Official Preparations

Cordiale Rubi Fructus (Blackberry Cordial).
Elixir Anisi (Elixir of Anise).
Elixir Aromaticum (Elixir Aromatic).
Elixir Aromaticum Rubrum (Red Aromatic Elixir).
Elixir Aurantii Amari (Elixir of Bitter Orange).
Elixir Cardamomi Compositum (Compound Elixir of Cardamom).
Elixir Glycyrrhizae (Elixir of Licorice).
Elixir Glycyrrhizae Aromaticum (Aromatic Elixir of Glycyrrhiza).
Elixir Taraxaci Compositum (Compound Elixir Taraxacum).
Spiritus Juniperi Compositus (Compound Spirits of Juniper).
Spiritus Myrciae Compositus (Compound Spirits of Myrcia).
Tinctura Amara (Bitter Tincture)
Tinctura Aromatica (Aromatic Tincture).
Tinctura Caramelis (Tincture Caramel).
Tinctura Cardamomi Composita (Tincture Cardamom Compound).
Tinctura Lavendulae Composita (Compound Tincture of Lavender).
Vinum Aurantii Compositum (Compound Wine of Orange).
Vinum Pruni Virginianae (Wine of Wild Cherry).

Medicated Alcohol

Wholesale and retail druggists may medicate alcohol in accordance with any one of the seven formulas listed below:

1. Bichloride of mercury, 1 part; alcohol 2000 parts.
2. Bichloride of mercury, 0.8 gram; hydrochloric acid, 60 cc.; alcohol, 64 cc.; water, 300 cc.
3. Bichloride of mercury, 1½ grains; hydrochloric acid, 2 drams; alcohol, 4 ounces.
4. Formaldehyde, 2 parts; glycerin, 2 parts; alcohol, 96 parts.
5. Carbolic acid, 1 dram; tannic acid, 1 dram; alcohol, 1 pint.
6. Alum, ½ ounce; formaldehyde, 2 drams; camphor, 1 ounce; alcohol and water, each 1 pint.
7. Liquor cresolis comp. (U.S.P.), 10 cc.; alcohol 1000 cc.

Wholesale druggists medicating alcohol as above may sell the same only to persons holding permits entitling them to procure the same, such as retail druggists, persons operating Turkish bath establishments, etc., upon receipts to purchase (Form 1410), under the procedure outlined in Article 8.

Retail druggists may sell such medicated alcohol, in quantities not exceeding one pint, for other than internal use without a physician's prescription to persons who do not hold permits to sell or use intoxicating liquor or to purchase such medicated alcohol, without the necessity of receiving permit to purchase on Form 1410, provided that in each case the container of such medicated alcohol bears a "poison" label.

Use of Alcohol in Toilet Articles

Alcohol may be used in the manufacture of antiseptic solutions and toilet preparations such as lotions, hair tonics, hair dressings, cologne and perfumes that contain no more alcohol than is necessary for extraction, solution, or preservation and measure up to the standards prescribed and published by the Commissioner from time to time and are unfit for use for beverage purposes. In any case where tartar emetic is added to any toilet preparation in the proportion of 32 grains per gallon and the container of such preparation is labeled "for external use only," the same will be regarded as unfit for beverage purposes. Bay rum, whether prepared according to the formula of the N.F. as spirits myrciae or otherwise, unless treated by the proportion of tartar emetic named above, and the containers so labeled, will be regarded as being fit for use for beverage purposes, and the use of alcohol in the manufacture thereof will not be permitted.

Since the regulation was issued, four additional modifying agents have been listed by the Department for use in place of tartar emetic in treating bay rum. The alternative agents are:

1. Quinine sulphate, 2 grains per fluid ounce.
2. Cinchonidine sulphate, 2 grains per fluid ounce.
3. Salicylic acid, 5 grains per fluid ounce.
4. Resorcin, 5 grains per fluid ounce.

Alcohol may be used in the manufacture of flavoring extracts and syrups provided such extracts and syrups contain no more alcohol than is necessary for extraction, solution, and preservation and measure up to the standards prescribed and are unfit for beverage purposes.

Any person who desires to use intoxicating liquor in the manufacture of any of the above preparations must file his application on Form 1404. If the applicant desires to manufacture U.S.P., N.F. or preparations according to the American Institute of Homeopathy, he must so state on his application. If he desires to manufacture preparations the formulas for which are not given in the U.S.P., N.F. or by the American Institute of Homeopathy, he must list the names of such preparations on Form 1404, Supplemental, giving the name of the persons for whom manufactured in the cases where the preparations are not placed on the market by the applicant, and also indicating opposite the name of each preparation the percentage of alcohol by volume in the finished product. All applications to use alcohol in the manufacture of extracts and flavoring syrups must be accompanied by quantitative formulas of such preparations unless the extract or flavor is used in the applicant's own business, or is sold in a concentrated form or as a syrup and is intended for subsequent bottling or for soft drink or other manufacturing purposes, and is unfit for use as a beverage. All such formulas must show the percentage of alcohol in the finished product when placed on the market. If there is any doubt as to the nonbeverage character of any preparation, the Commissioner may demand at any time the formula and process by which the same is manufactured, and require the manufacturer to submit a commercially labeled sample for analysis.

Use and Sale by Retail Druggists or Pharmacists

A retail pharmacist, or a retail druggist where the sale is made through a retail pharmacist, may sell distilled spirits, wines or the alcoholic medicinal preparations fit for beverages which are authorized to be manufactured by Article 11 in quantities of less than 5 wine gallons to other persons holding permits entitling them to procure such liquor for nonbeverage purposes on receipts to purchase, Form 1410. Retail druggists or pharmacists may not sell in quantities of five gallons or more unless they are also wholesale druggists or wholesale pharmacists and hold permits to sell in wholesale quantities. No sale at retail may be made except through a pharmacist.

The liquor above specified may be used by retail druggists or retail pharmacists in compounding medicinal preparations on physicians' prescriptions or otherwise, provided the preparations so made are unfit for beverage purposes. Such preparations may be sold. for medicinal purposes only, to persons not holding permits under the regulations.

Alcoholic medicinal preparations, fit for use for beverage purposes, and other liquor may be sold by retail pharmacists, or by retail druggists where the sale is made through a pharmacist, upon physicians' prescriptions to persons who do not hold permits to sell or use intoxicating liquor and without the necessity of receiving permits to purchase, providing the name of the pharmacist (or druggist where the pharmacist is in his employ) appears on the prescription in the physician's handwriting in addition to all other data required by article 13. Prescriptions may not be issued for more than 1 pint of spirituous liquors at any one time. Pharmacists are not permitted to refill any such prescriptions, and they should refuse to fill any prescription if they have reason to believe that physicans are prescribing for other than medicinal uses or that a patient is securing, through one or more physicians, quantities of intoxicating liquors in excess of the amount necessary for medicinal purposes, which shall not be more than 1 pint for the same person within any period of 10 days. Physicians may not prescribe liquor for their own personal use, and pharmacists should refuse to fill any such prescription presented to them.

Filling Liquor Prescriptions

Every pharmacist filling prescriptions for intoxicating liquor must, at the time of filling, indorse upon each prescription, over his signature, the word "cancelled," together with the date the liquor was delivered. Pharmacists filling prescriptions for liquor for medicinal uses, or retail druggists in cases where such pharmacists are in their employ, must preserve, in a separate, carefully guarded file, one copy of each prescription filled, and must transmit once a month to the Director a list of prescriptions for intoxicating liquor filled by them, which list shall show the names of the physicians, the names of the patients, and the total quantity of liquor dispensed to each patient during the month.

Must Pay Special Tax as Liquor Dealers

Retail druggists or pharmacists selling intoxicating liquors as such, whether upon physicians' prescriptions or otherwise, are required to pay special tax ($25) as liquor dealers under the internal revenue laws, and to keep the special tax stamp showing such payment conspicuously posted (All retail dealers licenses obtained before January 17 (Federal tax stamps) are good until July 1, 1920. Druggists starting in business and receiving permits to sell intoxicating liquor must secure such retail tax stamp before any sale is made).

Keeping Records

Retail druggists or pharmacists who purchase and sell intoxicating liquor under the provisions of Article 12, must keep supplemental record 52, modified where necessary, and make therein entries covering all intoxicating liquor delivered to or received by them A transcript of such record must be forwarded to the Director before the 10th of each month, showing all transactions during the preceding month.

Prescriptions for Intoxicating Liquor

Physicians who do not hold permits, are not permitted to issue prescriptions for intoxicating liquor and, as previously stated, no prescription may be issued for a greater quantity than is necessary for use as a medicine by the person for whom prescribed. In no case can a quantity in excess of one pint be prescribed for the same person by one or more physicians within any ten days. No prescription may be filled more than once, and such prescriptions must be on Form 1403, and contain all the data called for by such form, except that in any case where the physician holding a permit to prescribe liquor is not in possession of such form, due to any reason justifying such condition, and delay in procuring the same might result in loss of life or aggravate the ailment, he may prescribe liquor upon a form other than Form 1403. In such cases, however, the prescription must contain all the information called for in the regulation form. Prescriptions for intoxicating liquor must not cover any other medicine or drug.

Prescriptions Only on Official Blank Forms

Blank prescriptions, Form 1403, are issued by the Commissioner in book form, serially numbered, and are obtainable free of cost by any physician holding a permit to prescribe from the Director. Not more than one book of such blanks is issued at one time. The prescription blanks are printed with stubs attached, the stub being a duplicate of the blank. The book containing the stubs must be returned to the Director from whom secured on using the last prescription blank, or earlier if requested by the officials. All unused, mutilated or defaced blanks must be returned. The physician must also keep on book Form 1402, procured from the Director, a record alphabetically arranged of every prescription for liquor issued by him, including the date, name of patient, amount and kind of liquor, purpose or ailment for which prescribed, directions for use, etc

Physicians are not permitted to obtain more than 6 quarts of liquor during any calendar year to be administered to their patients only in quantities necessary to afford relief at the time of administering, which liquor is not to be sold or used by them for any other purpose. Such liquor may be obtained of the pharmacist by the physician holding a permit, only in the manner prescribed in the regulations.

Transportation and Lawful Possession

Articles 14, 15 and 16 relate to the exportation and importation of liquor for nonbeverage purposes; what constitutes lawful possession of liquors, and regulations covering the transportation of liquors. The druggist should know that all permits authorizing the delivery or procurement of intoxicating liquor confer upon the permittee the right to have the same transported by a carrier holding a permit to transmit such liquor by any method of delivery from authorized persons holding permits for the purpose. No person is permitted to transport or receive from any person transmitting liquor unless the package containing the same shall bear a label carrying (1), name, address, and permit number of the consignor; (2), name and address of the consignee and number of permit to purchase held by him; (3), kind and quantity of liquor. Carriers can deliver such transported liquors to persons presenting a copy of the form of permit to purchase (Form 1410), verified under oath. The consignee or his agent must be personally known to the carrier or identified by some other person known to the carrier. The act makes it unlawful for any person to use or induce any carrier to transport liquor without informing of the true nature of the shipment.

Advertising and Prohibited Formulas

Section 17 of the Act makes it unlawful to advertise anywhere, by any means or method, liquor, or the manufacture, sale, or furnishing of the same, or where, how, from whom, or at what price the same may be obtained. This section does not prohibit persons holding permits to sell wines for sacramental purposes from furnishing price lists to rabbis, ministers of the gospel, priests, or other church officials of religious bodies using wines for such purposes, nor does it prohibit the advertising of wines for such purposes in religious publications. Authorized manufacturers and wholesale druggists may furnish descriptions of intoxicating liquor which they have for sale, and furnish information concerning the selling prices thereof to persons qualified to purchase such liquors; they may also advertise alcohol in business publications or trade journals circulating generally among authorized manufacturers of alcoholic preparations. The use of all business signs calling attention to the manufacture or sale of liquors is forbidden, the Act repealing the former requirements of Section 3279, Revised Statutes, directing that such signs be conspicuously displayed. Advertising of distilling apparatus intended for use in the authorized manufacture of intoxicating liquor or for other legitimate purposes, such as the distillation of water or similar laboratory uses is permitted. The act also provides that no person shall solicit or receive from any person any order for liquor or give any information of how liquid may be obtained in violation of the provisions.

COMMISSIONER ROPER RESIGNS

Daniel C. Roper, Commissioner of Internal Revenue, has resigned. Mr. Roper has been Commissioner of Internal Revenue since Sept. 26, 1917, and because the collection of the huge war taxes, in addition to the enforcement of the National prohibition and anti-narcotic laws was given to his office it has become one of the most important in the Government. Under his direction more than $6,000,000,000 in taxes were collected during each of the years 1918 and 1919.

Metric System Advantageous in Research Work, Says Prof. H. V. Arny

The introduction of the metric system of weights and measures—the meter-liter-gram system, as its advocates now like to call it—was a great boon to the profession, states Prof. H. V. Arny, of the College of Pharmacy of the City of New York, Columbia University. It is no exaggeration to state that its use has saved the analytical and research chemists of the past fifty years centuries of time, by simplifying the calculations necessary in determining whether a certain substance contained 10 per cent or one-tenth of one per cent of its valuable ingredient. For this reason, those connected with the chemical industry have welcomed the introduction of metric units from the days when France adopted the system in 1793 down to this twentieth year of the twentieth century, when the matter of adoption of the metric system as the sole official standard of weights in this country and Great Britain is no longer a merely academic question.

Some firms have actually put their plants upon a metric basis, weighing in all raw material in metric units and keeping the entire manufacturing operation on a metric basis until the finished product is put into containers marked in the vernacular as far as weights are concerned. Some firms whose plants are not upon a metric basis market their products under the Net Weight Law with the double standard: "This package contains one pound or 453 grams." Only the other day the writer had the opportunity of passing on a list of metric equivalents ranging from 1-100th of a grain to an avoirdupois ounce, that will shortly be submitted to the American Drug Manufacturers Association for adoption by that body as standard in labeling packages of medicines.

Since 1893 the United States Pharmacopoeia has used the metric system in all of its recipes and descriptions except doses which are given in both metric and common units. Practically all of the national pharmaceutical bodies have gone on record favoring the adoption of the metric system, and highly significant is the poll taken in 1917 by the National Wholesale Druggists' Association, which showed that the members of the association were not only using metric units in their business, as far as present mercantile conditions permit, but also that a large majority of those voting preferred the passage of legislation making the metric system the one system of weights and measures used in this country.

In the State of New York every drug store is required by law to possess a set of metric weights and measures for use in the compounding of prescriptions. And, as cited above, a large number of manufacturers of pharmaceuticals label their packages with quantities expressed in both United States and metric units.

CAPSICUM IN GINGER ALE

Food Inspection Decision 177, issued by the U. S. Department of Agriculture in 1918, provides that if capsicum, the extract of red pepper, is present in ginger ale, notice of the fact must be stated on the labels of the bottles in which such beverage has been shipped. Federal inspectors have recently been instructed to seize all interstate shipments of ginger ale on or after March 16 which are not properly labeled in this particular, and all shipments from foreign countries will be denied entry into the United States unless correctly labeled. A Department circular states that an investigation of numerous ginger ales on the market reveals that while the regulation is being generally complied with, there appear to be some bottlers of ginger ale whose products come within the jurisdiction of the Pure Food and Drugs Act, who apparently are not familiar with the provisions of this regulation.

THE QUESTION BOX

The "How to Do It" Department

CONDUCTED BY PHARMACEUTICAL EXPERTS

For the benefit of ERA Subscribers

Literature and Information Concerning Mate

(T. B. Co.)—We know of no bulletin the Government has issued on maté or the so-called "Paraguayan tea," but would suggest that you write to the Bureau of Plant Industry, Washington, D. C., which doubtless can inform you on this point, and also tell you whether any serious attempt has been made to introduce the cultivation of the plant in this country. However, a very good condensed account of Paraguayan tea is given in Wiley's "Beverages and Their Adulteration," the author stating among other things, that contrary to the general understanding, far greater quantities of the tea are grown in Brazil than are grown in Paraguay. He further states that the quantity of exports from Brazil (1919) is considerably over 50,000 tons annually, its value ranging from $8,000,000 to $10,000,000. Of the European countries, Italy appears to have used the most; Germany also used a considerable quantity before the war, and France and Portugal small amounts. A very good article on the "history, character and composition of maté or Paraguay tea" appears in the Proceedings of the American Pharmaceutical Association for 1884. While this article was published a number of years ago, it contains much original information on the subject.

The following information concerning the chemical composition of maté, taken from an analysis by Otto Rammstadt published in the German *Pharm. Zentralhalle*, and reproduced in abstract by *Chemical Abstracts* in 1916, would seem to answer your second question; "Its active principle, mateine, is probably identical with or at least very closely related to caffeine. Analysis of 17 samples gave the following results; water, 7.18 to 13.04 per cent, average 9.40 per cent; mateine calculated on dry material 0.71 to 1.56 per cent, average 1.19 per cent; protein 13.18 to 19.50 per cent, average 15.79 per cent; aqueous extract 34.20 to 48.63 per cent, average 38.81 per cent. A cup of good maté contains only about 0.05 as much mateine as there is caffeine in a cup of good coffee and the latter costs ten times as much. The tannin of maté has not the objectionable taste that characterizes the tannin of tea. In a sample of maté of poor quality containing only 0.89 per cent of mateine, the base was found to be distributed thus; The good parts yielded 0.81 per cent mateine, the siftings 0.96 per cent, and the stems, of which there was 9.9 per cent, yielded only 0.49 per cent."

Fluid Sulphur Monochloride

(D. C. B.)—We take the name "fluid sulphur monochloride" to mean sulphur monochloride, which is an amber to yellowish-red, oily, fuming liquid, prepared by passing a current of chlorine over melted sulphur, heated to a temperature of about 130° C. It has a powerful suffocating odor, and produces an irritating effect on the eyes, lungs and mucous membranes: it has a specific gravity of about 1.70, and boils at 138° C. It is soluble in alcohol, ether, benzol, carbon bisulphide and amyl acetate, but when brought in contact with water, decomposes with the formation of hydrochloric acid, sulphur, sulphurous acid and a small amount of sulphuric acid. Sulphur monochloride is a solvent of sulphur to the extent of about 66 per cent forming a thick syrupy liquid which is used in vulcanizing rubber. It is also used in manufacturing vulcanized oils, rubber substitutes and cements, purifying sugar juices, and during the war was employed in the manufacture of military poison gases. Sulphur also forms with chlorine, sulphur dichloride and sulphur tetrachloride, both of which are comparatively unstable compounds under ordinary conditions.

Preventing Deposition of Moisture on Glass

(H. M. L.)—In further reply to your request for information concerning methods to prevent deposition of moisture on glass, March Era, page 69, we take the following from a recent issue of the *Canadian Druggist*:

(1)

Place a few flat glass or porcelain dishes with calcium chloride in each window. This substance eagerly absorbs all moisture from the air. The contents of the dishes have to be renewed every two or three days; the moist calcium chloride after being rigorously dried may be used over again.

(2)

Apply to the inside face of the glass a thin layer of glycerin, which does not permit the vapor to deposit in fine drops and thus obstruct the light. Double glass may also be used. In this way the heat of the inside is not in direct contact with the cold outside.

(3)

By means of the finger slightly moistened, apply a film of soap of any brand or kind to the mirror; then rub this off with a clean, dry cloth; the mirror will be as bright and clear as ever; breathing on it will not affect its clearness.

Chinese Oil: China Wood Oil

(D. C. B.)—The term "Chinese oil" to which you refer, is synonymous with "China wood oil," also known as "tung oil," or "China nut oil," an oil obtained from the nuts of two varieties of a tree native of China, Indo-China, Tonkin, Annam, etc., the principal markets being Wuchow and Hankow. The oil is obtained from the seeds or nuts by roasting, grinding and pressing. On keeping the oil jellies, solidifies or polymerises. It dries more quickly than linseed oil, forming a wax-like opaque skin, but not an elastic film like that produced by linseed oil. When heated to 500° F. for a short time it solidifies to a jelly-like mass. This property forms the basis of the so-called "heat tests" which have been devised to determine the purity of the China wood oil. It is stated that on account of the high price this oil is frequently adulterated, the adulterants usually found being the oils of the soya bean, sesame, and cottonseed.

Its physical and chemical characteristics have been determined as follows; Specific gravity at 15.5° C., 0.9406-0.9440; solidifying point, 2-3° C.; saponification number, 190-197; iodine number, 150-176; refractive index at 20° C., 1.511-1.5207; viscosity (Redwood 60° F.), 850-1430 secs.; unsaponifiable matter up to 8 per cent; free fatty acids up to 5.30 per cent (oleic); titer, 37.1° C.

China wood oil is largely used as a substitute for linseed oil in varnish, waterproofing, for cement, linoleum and paint because of its rapid drying properties. It is extensively used in China for waterproofing fabrics, paper, and for varnish, putty, lacquer and ink. The fatty acids are used as a substitute for shellac According to commercial designation, the oil is graded as "white, black, cold pressed, yellow; hot-pressed, dark." The Japanese oil is said to be inferior, and notably poorer in drying qualities. See also "tung oil" in United States Dispensatory, last edition.

Keeping Qualities of Syrup

(K. P.)—Rock candy syrup is popular among many users of syrup because of the somewhat general belief that rock candy is the purest commercial form of cane sugar, and contains no ultramarine blue, which is often used in granulated sugar to kill the slight yellowish tint it may have when carelessly refined. When present in granulated sugar, this blue often settles out in the syrup made therefrom, forming a blue sediment in the bottom of the bottle. For this reason the sugar used in making syrups should be of the best obtainable quality, as upon it depend the character and stability of the finished syrup. The variety of sugar known in commerce as "crystal sugar A" is generally preferred by pharmacists for most pharmaceutical purposes. A little care should enable you to find a grade of sugar free from added blue.

Simple syrup, when properly sterilized and kept, is a fairly stable preparation, and if preserved in completely filled bottles, in a cool place, it will keep unaltered for a long time. Syrup may undergo two changes; inversion, or the change into fructose and glucose, and then fermentation, or the change into carbon dioxide and alcohol. Syrups that have undergone fermentation are no longer fit to use, and even if the attempt be made to restore them by boiling, they are likely to spoil again, owing to the decreased proportion of sugar left in solution. Fermented syrups cannot be reclaimed with any degree of satisfaction, and should not be used for medicinal purposes. Most works on practical pharmacy direct that finished syrups should be put into perfectly clean and dry bottles, which should be completely filled and then securely stoppered or sealed. Before refilling bottles from which syrups have been dispensed, the bottles should be thoroughly washed and cleansed.

Asthma Powders for Inhalation

(F. F. V.)—Various formulas for mixtures in powder form to be burned and the fumes inhaled have been printed in medical and pharmaceutical reference works. The following are typical;

(1)

Lobelia	1 ounce
Black tea	1 ounce
Stramonium	1 ounce
Potassium nitrate	1 ounce
Anise	1 dram
Fennel	1 dram

Separately powder and mix. This is known as Mackenzie's formula. It is stated that attention to the stomachic conditions will do most for asthmatic patients. An important point is to take the heaviest meal early in the day and no very solid food after 2 p.m. Shower bath and out-of-door exercise, not, however, to a fatiguing extent, are serviceable. In special cases operative treatment of the nose and naso-pharynx is required. Inhale the fumes of the above mixture twice a day.

(2)

Lobelia	1 ounce
Potassium nitrate	1 ounce
Stramonium leaves	1 ounce
Tea leaves	1 ounce
Oil of eucalyptus	30 minims

Powder the solids, mix thoroughly and incorporate the oil of eucalyptus.

Asthma Pastilles

Benzoin	1 ounce
Jaborandi leaves	2 ounces
Stramonium leaves	4 ounces
Potassium nitrate	4 ounces
Charcoal	20 ounces
Mucilage of tragacanth, thin, sufficient.	

Beat the powders with mucilage to a stiff mass and roll out into a cake about one-half inch thick, cut this into strips one-eighth inch wide and 1½ inches long, and dry by warm air, or make into cones of about 60 grains weight. One end of the pastille is ignited and the smoke inhaled until relieved.

Ant Exterminators

(G. D. S.)—So far as we are aware, no method has been suggested which has received universal endorsement for driving away ants from the vicinity of the soda fountain, pantries, or from any place where material which affords food for the pest is stored. Methods recommended as a "sure cure" procedure by one correspondent have been repeatedly published, with the result that another correspondent has found them to be of no service whatever. The most effective method undoubtedly is to locate the nests of the ants, which may then be destroyed by the use of boiling water or steam shot into their habitations. To help you out, we take the following selections from our files, one of which may do the trick;

(1)

Soak a piece of sponge in water, so as to cause it to swell, then squeeze the sponge to remove as much of the water as possible. Sift sugar on the damp sponge, place it near the ant infested spot, which will soon attract the insects. After the sponge is filled with ants, hook on it a weight, sufficiently heavy to cause the sponge to sink in water previously placed in a pail. On immersion of the sponge, the ants come to the surface of the water, from which they may be skimmed off and thrown into boiling water, or destroyed in some other way. Squeeze the water out of the sponge, dose it again with sugar and place in the infested spot, repeating the operation as may be necessary. The author claims that this method is "clean, safe, and not troublesome."

(2)

Cape aloes, 1 pound; water, 1 gallon; dissolve and add camphor flowers, 6 ounces. Mix the decoction of aloes slowly with the camphor. To use the mixture, pour it into the ants' nests, or brush it upon the places they infest.

(3)

Mix borax, 1 pound, with camphor, 1 ounce (or powdered cloves, same quantity), and sprinkle the mixture where the ants congregate. The sponsor for this formula states that one or two applications of the mixture will cause the ants to migrate. Others recommend the application of crude carbolic acid (3 ounces in a gallon of water). While this solution may prove effective in some places, its odor would be objectionable around a soda fountain, and great care would have to be taken to keep it from coming in contact with food materials.

The Progress of Pharmacy

Zacaton or Broom Root—

The Era's correspondent in Vera Cruz, Mexica, reports that large shipments of zacaton or broom root have been made from that port in the past few months on all ships going to Spain, France and England, commission merchants stating that they receive better prices there for this product than in the United States. The plant known botanically as *Epicampes macroura,* is an unusually hardy, heavy cropping perennial grass of profuse growth found in many parts of Mexico. It has never been cultivated to any extent. The root is the valuable part of the plant and may be gathered at any time of the year. The root is dug and subjected to a cleansing process, the thin skin and dirt removed, and the root then bleached to a pale yellow color by exposing it to the action of sulphur fumes. The roots are sorted, the thin and straight or slightly curly roots being preferred. These are worked up into brushes. The roots are packed in bales for shipment, Vera Cruz merchants paying from .80 to $1 peso per kilo for the same. An export duty of five cents Mexican currency per kilo gross is imposed on the root.

Detection of Cinnamic Acid—

Traces of cinnamic acid, either free or as a salt or ester, can be detected by means of a ferric salt and hydrogen peroxide. To every 2 Cc. of a solution of cinnamic acid or a cinnamate one drop of a solution of ferric chloride is added and the mixture heated to boiling; one drop of hydrogen peroxide is then added and the tube shaken for a few seconds; if no odor of benzaldehyde is developed the tube is again heated to boiling. It is possible by this means to detect 0.02 Gm. of cinnamic acid in a litre of water; if the amount exceeds 0.1 litre the quantity of ferric chloride and peroxide may be doubled. Cinnamic esters should be boiled with 5 Cc. of water and two or three drops of solution of soda for twenty to thirty seconds and acidified with diluted sulphuric acid; the ferric chloride is then added, the mixture boiled, the hydrogen peroxide added, and again boiled, when the odor of benzaldehyde will easily be detected. A similar procedure is adopted with balsam of peru or tolu—(*Bull. Soc. Ph. Bordeaux* through *Pharm. Journ.*).

Analysis of Spirit of Camphor—

The quantities of camphor and alcohol in a sample of spirit of camphor may be found by determining the specific gravity and refractive index of the sample. The refractive index of camphor is 1.4535-1.4537 at 20° C., and the specific gravity 0.9960 at 15° C.; these values are the same for both synthetic and natural camphor. From the data obtained for the sample under examination the percentages of camphor and alcohol are ascertained by reference to a graph constructed from the results obtained with solutions of known composition.—(*Pharm. Zentralh.* through *J. Soc. Chem. Ind.*)

Uses of Thorium

The following is a formula that has been widely used, in the form of nitrate in the manufacture of incandescent gas mantles. The fabric of the mantle is made of cotton, ramie fiber, or artificial silk, which is impregnated with a solution of thorium nitrate, then dried and burnt off. The resulting thoria, when heated, emits an intense white light. A mixture of 99 per cent thoria with about 1 per cent ceria gives the brightest light. From 250 to 500 mantles are produced from one pound of thorium nitrate. The world's annual consumption of incandescent gas mantles is about one-third of a billion. A small quantity of thoria mixed with a little ceria is being used as the illuminating material in certain searchlights and automobile headlights. Thorium compounds form a portion of some magnesium flashlight powders, and the metal thorium, with other rare-earth metals, is alloyed with tungsten, making very ductile filaments for electric lamps.

Tropical "Sweet Grass" as a Source of Scent—

In Trinidad considerable use is made of tropical "sweet grass," *Andropogon squarrosus* L. (*Vetiveria zizonoides* Stapf), to place among clothing, not merely because of the agreeable scent which it imparts, but also because it is believed to be as effective as camphor balls in keeping away moths and all kinds of insects. During the Christmas season, especially, considerable use is made of it for stuffing sachets, handkerchief cases, and for making fans and other perfumed souvenirs. The plant, which is a native of India, Ceylon, etc., is also known as khus-khus or vetivier, and is cultivated in various parts of tropical America. In Trinidad, it is grown locally on a small scale, being planted in some districts to prevent soil slipping on road cuttings, etc. According to the director of Agriculture of the Trinidad Government, the fibrous roots, collected and dried, are imported to some extent from Martinique, and bring, when laid down in Trinidad, about 24 cents a pound, and are then retailed in small bundles at 1 cent each. The list of local names applied to this plant throughout the world is very extensive, the roots being universally known in Bengal as "chas" or "khas-khas," and in Bombay as "khasa-khasa." The more common English designations are "vetiver" or "cus-cus."

Water-Soluble Tincture of Iodine—

Proprietary liquid preparations of iodine have been on the American market for many years, and are advertised as being superior to the official U.S.P. preparations. It is claimed that the potassium iodide in the official formulas causes a local irritation which is avoided in these proprietary preparations. Comparative tests fail to show that any of these claims are well founded. When painted on the skin no material difference in the degree of irritation could be perceived; and when reduced to the same iodine strength, 2.2 per cent of free iodine, the U.S.P. tincture was slightly less irritant than the other preparations. As far as capillarity and even spreading, the test, on paper, was adverse to the official preparation containing potassium iodide, and in favor of the proprietary preparations which were merely solutions of iodine in alcohol, with free hydriodic acid present. On the skin, this difference was not pronounced. It is concluded that the presence of potassium iodide does not render the official tincture in any way more irritant: it is much less precipitant to proteins than the simple tincture or the secret or non-secret "miscible" tinctures. This more even spreading and the rapid coagulation of protein render a simple tincture of iodine without potassium iodide probably the best for "disinfecting" the skin; while the less precipitating action of the official tincture renders it superior for the disinfecting of wounds. The secret and non-secret water-soluble tinctures do not appear to have any material advantages. They all contain more free hydriodic acid than the U.S.P. tincture—(*J. Am. Med. Assoc.*).

Components of Marshmallow Root—

According to O. von Friedrichs, marshmallow root (*Althaea officinalis*) contains 1.7 per cent of an oil, composed of palmitin and olein; butyric acid; a phytosterol, apparently identical with sitosterol; a hydroxy-acid of high molecular weight; an odorous substance of unknown composition; a lecithin containing palmitic and oleic acids and with a basis of choline; 10.2 per cent of sucrose and 0.78 per cent of invert sugar; a mucilage ($C_6H_{10}O_5$), consisting of glucosan (64 per cent) and xylan; and another saccharo-colloid giving *d*-gallactose on hydrolysis—(*Arch. Pharm.* through *J. Soc. Chem. Ind.*).

Origin and Meaning of the Term "Potash"—

In 1848 Knapp wrote: "Potashes are never obtained by a chemical decomposition of any other potash salts or as a product ready formed in nature, but always from the ashes of plants." This conception had long been accepted as a fact, but was soon afterwards entirely changed by the exploitation of the salts at Stassfurt in northcentral Germany. The methods of producing potash from wood ashes, yeast, the lees of wine, the residue of brandy distilleries, and other sources were crude. The total production of potash in all forms in these days was not great. The name "potash" was first used because this substance was originally prepared by evaporating the solution of ashes of plants in iron pots, and the name thus originally designated a particular product, mostly an impure potassium carbonate, derived from ashes, but was afterwards used to include caustic potash (lye), obtained by treating the crude carbonate with lime. The original potash of trade was and still is marketed in various grades as stone-ash, an impure mixture of caustic and carbonate; as potash, or black salts, or black flux, and as the redissolved and refined material known as pearlash. Although potassium had long before entered commerce in considerable quantity as Indian saltpeter, this was not ordinarily called potash. Not until 1860 to 1862 did the great deposits about Stassfurt begin to produce potash, and from that time the meaning of the term potash has gradually been extended to cover other commercial compounds of potassium—(*Mineral Resources of the U. S.*).

Valuation of Common Potassium Salts—

The trade in its terminology still associates potash with carbonate and lye. A combination of potassium carbonate with caustic lime produces caustic potash or lye (potassium hydrate). If this hydrated potash is heated so as to drive off all water the product is potassium oxide or "pure potash" (chemical symbol, K_2O). Potassium oxide has been adopted as the unit of measurement of all the potash salts; that is, the unit of measurement of the value of a potassium compound is the calculated equivalent of the pure potash (K_2O) contained in the salts or mixture. The following figures show the "pure" or "actual potash" equivalent of the common potash salts, assuming that they are themselves chemically pure (the figures given represent the percentage of potash (K_2O) equivalent to content of potassium); Potassium chloride (muriate), 63; potassium sulphate, 54; potassium nitrate 47; potassium carbonate, 68. The marketed salts are seldom even approximately pure, but are ordinarily designated by terms indicating the degree of refinement. For instance, one of the standard salts of commerce is the "80 per cent muriate," equivalent to about 50 per cent potash (K_2O). Many of the fertilizer salts, such as kainite and manure salts, are mixtures, not always of the same composition but guaranteed to contain certain specified percentages of potash (K_2O)—(*Mineral Resources of the U. S.*).

Thyroxin—

Kendall first isolated this substance in 1914, as the result of an investigation begun in 1910 of the chemistry of the thyroid gland. Since that time many grams of thyroxin have been produced in the laboratories of the Mayo Foundation, Rochester, Minn., 33 grams having been prepared from more than three tons of thyroid. The structural formula of the substance was determined in 1917, and later in the year Osterberg succeeded in synthetizing thyroxin, the synthesis and formula being subsequently confirmed by Kendall. In minute doses of a few miligrams, thyroxin shows the characteristic physiological reactions of thyroid, stimulating metabolism. Kendall believes that the active chemical groups of thyroxin are essential to the production of energy in the body—(*J. Am. Med. Assoc.*).

Sag Paste for the Treatment of Burns—

A medical ointment used in the treatment of burns, made by a number of large manufacturers for the Government during the war with Germany under the name of "Sag Paste," has the following variant formulas;

Formula No. 66: Zinc oxide, 100 mesh U.S.P., 40 parts; benzoinated lard, 20 parts; refined raw linseed oil, 20 parts; adeps lanae, U.S.P., 20 parts; coloring matter, 1 part.

Formula No. 146: Zinc oxide, 100 mesh U.S.P., 45 parts; benzoinated lard, 10 parts; refined raw linseed oil, 30 parts; hydrous lanoline (Adeps Lanae, U.S.P.), 15 parts; coloring matter.

Formula MF-A: Soya bean oil, 62 per cent; zinc stearate, 38 per cent.

During the war "sag paste," put up in collapsible metal tubes, similar to those used for tooth paste and ointments, was purchased by the Government principally for the treatment of gas burns.

Determination of Sulphonal—

Falck reports determinations of the solubility of sulphonal in various solvents which showed that 1 gram of sulphonal required the following quantities of solvent for complete solution; Water (at 18° C.) 423 grams; (at 100° C.), 8 grams; 90% alcohol (at 15° C.), 60 grams; ether (at 17° C.), 79 grams; chloroform (at 20° C.), 3.3 grams; methylene chloride, 2.8 grams; benzene (at 17° C.), 12.7 grams; ethyl acetate, 13.7 grams; toluene, 19.3 grams; carbon tetrachloride, 110 grams; carbon bisulphide, 440 grams; 2% solution of sodium chloride (at 18° C.), 440 grams. Sulphonal begins to volatilize at 60° C. under ordinary pressure, and is appreciably volatile with steam; on this account, sulphonal solutions should not be concentrated by evaporation before analysis. Extraction with chloroform and evaporation of the solvent at low temperature is recommended for the determination of sulphonal in its aqueous solution. Sulphonal may be recovered from decomposing animal matter even after long contact; characteristic crystals of the substance are obtained from its ether or chloroform solution—(*Pharm. Zentr.* through *J. Soc. Chem. Ind.*).

Green Mountain Salve—

The following is a formula that has been used a lot, but may be varied for different climates; Beeswax, 4 ounces; rosin, 5 pounds; Burgundy pitch, 4 ounces; balsam of fir, 1 ounce; Venice turpentine, 1 ounce; verdigris, 1 ounce; tallow, 4 ounces; oil of origanum, 1 ounce; oil of hemlock, 1 ounce; oil red cedar, 1 ounce; oil of wormwood, ½ ounce. Melt the first three ingredients, add the tallow and turpentine. Rub the verdigris up with a little of the oil, then add the whole and stir well. Now pour the mixture into cold water and knead as you would dough. Roll into sticks—(*Apoth. & New Eng. Dr.*).

Opium Chemistry—

Jermstad has sought to solve the debated question of who was the original discoverer of morphine, and comes to the conclusion that Derosne first published a note on the isolation of morphine from opium in 1804. The presence of maconic acid was first established by Seguin in 1804, and the hypnotic action of morphine was established by Seturner in 1806; the latter also demonstrated that morphine was an organic base—i.e., an alkaloid—(*Jour. Suisse de Pharm.* through *Ch. and Dr.*).

New Books for Pharmacists

THE OPIUM MONOPOLY. By Ellen N. La Motte, author of "Backwash of War," "Peking Dust," "Civilization," etc. 12 mo., 84 pages, cloth. New York, The Macmillan Company.

This little book is written by one who spent nearly a year in the Far East, and who hesitated to believe that the opium traffic was being conducted on the other side of the world as a government monopoly. The evidence seemed so conclusive, however, that she decided to look into the matter for herself. She visited Japan, China, Hongkong, French Indo-China, Siam and Singapore, where she searched government reports for statistics concerning the opium trade—the amount of opium consumed, the number of shops where it was sold, and the number of divans where it was smoked. In each of the countries of the Far East, with the exception of Japan and the Philippines, she found shops established under Government auspices, the dealers obtaining their supplies of opium from the government, and then obtaining licenses from the government to retail it. From what she saw and learned, she expresses the belief that the opium traffic, as fostered by the British Government, still continues. In America people know little about Great Britain's Opium Monopoly, and the few who do know of the facts hesitate to say much about the matter, because of dislike to call attention to the shortcomings of a friend, or through fear of developing international complications, or of endangering the good feeling between England and America.

However, the truth should be made known. Great Britain produces an over-supply of opium, far more than is needed by the medical profession. Opium is not profitable in its legitimate use, and is only profitable because of the demands of addicts. In giving this book to the public the author is attempting to stimulate a moral sentiment that will balk at this immense over-production, the sole object of which is to create drug victims. Some of the greatest men in England have been steadfastly opposed to the Opium Monopoly for many decades. "The time has now come, for us, people of both countries, to unite to stop it."

ARITHMETIC OF PHARMACY. By A. B. Stevens, Ph.D., Ph.C., College of Pharmacy, University of Michigan. Fourth edition, revised and enlarged. 12 mo., 100 pages, cloth. New York, D. Van Nostrand Company.

Of the several standard volumes on pharmaceutical arithmetic extant, that of the present author has held its own for many years, being used by those pursuing studies independently and as a textbook in colleges of pharmacy. As a whole, the book covers in a systematic manner the application of arithmetic to pharmacy, and when one comes to look upon it as a single subject, he finds that a knowledge of mathematics is needed at almost every turn in practical pharmacy. Problems embodying some mathematical principle come up every day, so that it becomes necessary to understand "pharmaceutical arithmetic," which in the final analysis differs from other arithmetic only in the manner of its application. The trouble with many students taking up the study of pharmacy has been that they usually fail to recognize the application of the necessary arithmetical process. To such this little book will prove helpful, for it carries the student through typical problems relating to weights and measures, thermometers and temperature, specific gravity, specific volume, percentage solutions, alligation, atomic weights, atomic and molecular weights, volumetric analysis, measurements of gases, etc.

In this edition, in deference to many teachers who have used this work as a text-book, most of the answers have been omitted, as also rules, the reason for the omission of the latter, the author states, being the hope that students will thus become more independent thinkers, instead of relying on the memory for certain rules. The specific gravity and other data necessary for calculation of problems are usually given, otherwise the student is referred to the last revision of the Pharmacopoeia for the needed information. Saturation tables prepared for the U.S.P. IX, but not used in that work, are included in this book, and their value is emphasized, for by their use many preparations may be extemporaneously made, and often, time and money saved. These tables contain answers to 758 problems from which teachers may select problems for special exercises.

AMERICAN DRUG MANUFACTURERS' ASSOCIATION. Eighth Annual Meeting. Waldorf Astoria Hotel, March 24-27, 1919. 8 vo., 392 pages, cloth.

This volume contains a report of the proceedings of the American Drug Manufacturers' Association at the annual meeting of the organization held in New York last year, together with the text of the various papers and addresses presented at the various sessions, and a large amount of valuable information and data which will interest anybody engaged in the drug trade. In the preparation of this volume, Secretary W. J. Woodruff departs somewhat from the stereotyped style followed by secretaries in other organizations by introducing the arrangement of his material with a "foreword," in which he tells what the reader may expect to find between the covers of the book.

Thus, "if you are a president or a secretary or a general manager, you will find for your guidance discussions of policy under such topics as those entitled Legislative Matter and The Future of Alcoholic Medicinals. If a treasurer, you will find hints in the topic Insurance Problems that may awaken you to opportunities for safeguarding thousands of dollars, and with the accountant and the credit manager you will find material as practical and instructive in the topic The Trade Acceptance and Credit Terms and Freight Allowances. Likewise the sales-manager will find in Salesmen Problems instructive data that he can obtain from no other source. While in Employment Problems he who is interested in this phase of his firm's activities will find statistics and other data bearing on the latest word on scientific management. As for the research worker, an entire half of the book is his—the practical experience, the opinions, the scientific findings of some fifteen or twenty men in his own particular corner of the scientific vineyard."

An examination of the book bears out all the secretary has said, and the material has been arranged in an intelligent manner. The membership of the association now numbers 55 manufacturing concerns, most of which were represented at the annual meeting.

MINERAL RESOURCES OF THE UNITED STATES. 1916. In Two Parts. 8 vo., Part I, Metals, H. D. McCaskey, Geologist in Charge. 871 pages; Part II, Nonmetals, E. F. Burchard and G. F. Loughlin, Geologists in Charge. 1115 pages. United States Geological Survey. Washington, Government Printing Office.

The report of the United States Geological Survey on the mineral resources of the country for 1916 marks the thirty-fifth year for which such reports have been published. Much of the material herein presented has appeared in one form or another, having been given to the newspapers months in advance of the publication of the volumes, which are the final repositories of the information for the year. The statistics of production include comparisons with earlier years which are interesting and illuminating. In 1880, according to the Tenth Census, the population of the United States was 50,189,209 and the value of the mineral products was $367,463,000—a per capita value of $7.32. In 1910, according to the Thirteenth Census, the population had increased to 91,972,266, a gain of about 80 per cent, and the value of mineral products to $1,991,216,000 an increase in thirty years of $1,623,753,000, or more than 440 per cent, and an average value per capita of $21.65. In 1916, according to the Bureau of the Census, the population had increased to 101,032,339, and as the mineral production for the year amounts to $3,513,934,000, the value of the per capita output was $34.78.

These figures show that in 1916, owing to the demand for increased production of war minerals and to their greater value, especially the metals, the total value of the mineral production was the greatest in the history of the country. Practically all the minerals shared in this increase, gold being the only one of the more important products that showed a decrease in value, though silver and anthracite showed decreases in quantity, but increases in value. Of the increases for the year for the metals, pig iron and copper contributed more than 78 per cent of the total, but large gains were made in zinc, lead, aluminum, ferro-alloys, and tungsten ores Coal and petroleum contributed 69 per cent of the increase shown in the non-metallic products. As heretofore, coal and iron are the most valuable of our mineral products. Notable increases are reported in the production of salt, the supplies of which are so vast as to be only limited by the demand. Druggists interested in the production of salts and compounds of mineral origin will find in these volumes much valuable information.

PRODUCTION OF GLYCERIN FROM SUGAR

The consumption of glycerin in the manufacture of cosmetics and for other purposes, chiefly in the manufacture of explosives, increased enormously during the war, while the supply of the raw materials—fats—was constantly diminishing. It was therefore necessary to seek other sources, and sugar was selected, as its chemical structure is somewhat similar to that of glycerin. An outline of the method employed in Germany, prepared by the Research Division of the Bureau of Foreign and Domestic Commerce, sets forth the following facts; The transformation of sugar into glycerin was accomplished by the biochemical method. It had been known for a long time that in the ordinary fermentation of sugar with yeast small quantities of glycerin would be produced, amounting to about 3 per cent of the sugar. By adding alkalis to the liquid in fermentation the production of glycerin was increased. It was found that almost any salt with an alkaline reaction could be used for that purpose. Experiments were made with acetate, bicarbonate, and diabasic phosphate of sodium and with carbonate of ammonia. The yield of glycerin was increased to 12.7 per cent, but the alkaline mash was found to be an excellent breeding place for all kinds of acid-forming bacteria, which would pollute the glycerin. This fault was remedied by the use of sodium sulphite, which acts as a poison to the bacteria of lactic acid and others, but does not, even in large quantities, affect the yeast cells (Saccharomyces). When sodium sulphite was employed as an antiseptic the yield of glycerin was increased proportionately to as much as 23 to 36.7 per cent of the sugar.

The ordinary fermentation produces not only alcohol, carbonic acid, and glycerin, but also small quantities of acetaldehyde. When the sulphite is added in increasing quantities the yield of acetaldehyde and glycerin increases, while that of alcohol and carbonic acid decreases. The acetaldehyde was used largely for war purposes. The production of glycerin from sugar had a great practical value in war time, according to German writers. The manufacturing process, patented in 1915, was exploited on a large scale, and the production of glycerin exceeded 2,200,000 pounds a month. The invention also possesses an unusual theoretical interest as it shows how the transformation of materials by bacteria can be influenced by the addition of chemicals. In the words of a German writer (Prometheus, Nov. 1, 1919), "the biochemical processes open up new prospects for the future and seem to be destined to provide many substitutes to a people robbed of all raw materials."

It is now known that large quantities of sugar that had been withdrawn from human consumption in Germany were used in the manufacture of glycerin for war purposes.

BULGARIA'S STOCK OF ATTAR OF ROSES

During the war, owing to the fact that Bulgaria was cut off from the principal markets—New York, London and Paris—the stocks of attar of roses remaining unsold increased until they reach a total of about 275,000 ounces, about 40 per cent of which is said to have been of inferior quality, reads a recent report to the Department of Commerce. About one-third of this total available stock was sent to the United States early in 1919 in part payment for flour imported from the United States; also some 17,000 ounces were shipped to the United States during the last quarter of the year. It is estimated that the present available stock in Bulgaria is hardly 50,000 ounces, worth about $500,000.

It is stated by one of the best-known producers that under existing conditions the production of attar of roses is not a paying industry. Owing to the high prices for other farm products, at least 5,000 acres of rose gardens have been abandoned and the land planted to more remunerative crops, especially tobacco. Centralization, by the formation of a syndicate for the purpose of eliminating unnecessary expenses, is spoken of as the only course that will save the industry.

During the twelve years prior to the First Balkan War, that is, from 1900 to 1912, the manufacture of attar of roses in Bulgaria attained its highest development. During that period a large number of up-to-date factories equipped with modern steam stills were erected. The total area planted to roses increased to more than 20,000 acres. Owing to the three wars in which Bulgaria has taken part since 1912, the industry of rose culture for the production of attar of roses has experienced a decided setback. It is estimated that the present acreage planted to roses is not more than 15,000.

The average annual production of attar of roses during the period from 1900 to 1912 was about 126,800 ounces. The production fell to 85,000 ounces in 1917; 85,000 ounces in 1918, and 52,000 ounces in 1919, and it is predicted that the present year's yield will show a further decrease.

DRUG MANUFACTURERS TO CONVENE

The ninth annual meeting of the American Drug Manufacturers Association will be held at the Hotel Biltmore, New York City, on April 12-15. The Scientific Section will hold sessions on April 12-13, while the Biological Section will hold one session only on the afternoon of April 12. The sessions of the association as a whole will begin on the afternoon of Tuesday, April 13. The business sessions will be devoid of all purely formal features and will be devoted to practical discussion of important trade problems, notably the alcohol regulations, the return of unsalable goods, freight and express allowances, guarantees against declines in price and kindred problems.

Professional & Trade Associations

PHILADELPHIA BRANCH

The election to membership of seventeen applicants whose names had been proposed was one of the features of the meeting of the Philadelphia Branch held at the Philadelphia College of Pharmacy on the evening of March 9. President Griffith presided. The annual report of the treasurer, which was presented and filed, showed that the finances of the branch were in excellent shape.

The following officers were elected: President, B. C. Goodhart; first vice-president, Mrs. C. H. LaWall; second vice-president, E. T. Hahn; secretary-treasurer, Elmer H. Hessler. Committees—Fraternal Relations, Ambrose Hunsberger, chairman, Horatio C. Wood, Jr., M.D., and Frank E. Morgan; Practical Pharmacy, Ivor Griffith, chairman, J. W. E. Harrison and A. B. Nichols; Membership, Russell T. Blackwood, chairman, Mrs. Josiah C. Peacock and W. W. McNeary.

Retiring President Griffith, in giving up the chair to his successor, spoke briefly on the high spots of the year, and called attention to the increased membership of the branch, which he said was due to the activity of the Membership Committee. The retiring officers were given a vote of thanks by the members.

Prof. E. L. Newcomb, of the University of Minnesota, and formerly of the Philadelphia College of Pharmacy, presented his plan for a membership campaign for National and State associations, which embodied an extensive sales proposition and sounded very plausible. The plan was discussed by Messrs. Eberle, LaWall, Stewart, Fischelis, Cook and Herron, and a committee was appointed to investigate and to report as to the value and possibilities of the plan at the next meeting of the branch. A vote of thanks was tendered to Professor Newcomb, who expressed his delight at the opportunity given to him to meet so many of his former friends and associates.

The regular scientific program included an interesting demonstration entitled "Chemical Vaudeville," by Ralph Foran, and a talk on "Blood Analysis," by Prof. Louis Gershenfeld. The paper on "Tablet Manufacture," prepared by R. C. White, was postponed until the next meeting so that the author could personally read it and enter into its discussion.

The secretary stated that this was the first meeting in his experience when it became necessary to secure additional seats for those attending the meetings, and it was gratifying for him to note the efforts the officers were making to secure interesting papers and contributions for the branch.

CHICAGO BRANCH

A large attendance marked the 108th monthly meeting of the Chicago Branch of the A.Ph.A. held at the Hotel LaSalle, Chicago, on Feb. 27, while more than fifty members were present at the dinner which preceded the regular session. President Clark occupied the chair, the subject of the evening being "Candy: How It Is Made and How the Retailer Should Stock It."

C. O. Dicken and Mr. Balmer, representatives of the Brach Candy Co., led in the discussion. Mr. Dicken, who is at the head of the purchasing department and the control laboratory, described the sources of many of the two hundred and more materials entering into the composition of candy, including particularly chocolate, vanilla, sugar, corn syrup, nuts, spices and flavors. Mr. Balmer, interested more particularly in the manufacturing, described most vividly the process of manufacture of many of the different kinds of candy. He included in his talk the methods by which his firm, producing two million pounds of candy per week, fills its orders and loads nine cars per day. This is accomplished largely by the use of conveyers, the force of men employed being relatively small. The discussion which followed was participated in by many, and resulted in much valuable information for the retailers of candy.

A special meeting of the Branch was held Friday evening, March 12, at the Hotel LaSalle, the occasion being the visit to Chicago of Dr. E. L. Newcomb. After dinner, Dr. Newcomb presented his plan for increasing the membership in the A.Ph. A. and the N. A. R. D. by means of a great national campaign with advertising, personal letters, etc. This plan, which will be early published, was heartily endorsed by the members present at the meeting, and a motion was passed that the matter be presented to the next regular monthly meeting of the Branch for its consideration.

PITTSBURGH BRANCH

An interesting feature of the February meeting of the Pittsburgh Branch of the A. Ph.A. was the lecture on "Poison Gases Used in Warfare," delivered by Dr. E. C. Reif, a member of the faculty of the Pittsburgh College of Pharmacy, and who was identified with the U. S. Chemical Warfare Service during the war. Dr. Reif explained in detail the methods of producing the several gases, testing and field experimentation, and illustrated many of his descriptions by the use of chalk diagrams on the blackboard.

Dr. F. J. Blumenschein, another member of the faculty, made an informal talk on benzyl benzoate, which is now being exploited by detail men in the employ of certain manufacturers. He exhibited a few sample preparations in which the chemical is recommended for dispensing purposes. Dr. Blumenschein was not particularly impressed with the usefulness of the article, and Dr. Emanuel agreed with him, both being of the opinion that the substance is only a passing fad which will soon follow in the wake of the scores of other prominently exploited articles with which physicians have been detailed in the past. As apropos to this conclusion, B. E. Pritchard called attention to an editorial which appeared in the current issue of the *Weekly Bulletin*, the organ of the Allegheny County Medical Society, from which he quoted this excerpt:

"The Code of Ethics of the American Medical Association specifically states that it is unprofessional for a physician to prescribe or dispense secret medicines or other secret remedial agents. Notwithstanding this fact, the manufacturers of such remedies are using the medical profession to introduce their preparations and later advertising them to the public, having first patented the name and formula for such preparations. The affable detail man leaves a few samples at your office, beautifully colored, and with an explanation as to particular virtue of his type of preparation and you may, accepting his word in good faith, prescribe his substance. This is the beginning, and in a few short months the druggist and the manufacturer are selling this across the counter without your prescription. The substance acetyl-salicylic acid was introduced under the name of aspirin some years ago and the ease of using the trade name by physicians has begun a business which is worth many millions to the producers of this substance. They are now in the advertising game and in a short while some of the substances we have prescribed in good faith will be advertised in like manner. The alien property custodian sold the aspirin rights for $6,000,000. We have been responsible for introducing to the public this enormous business enterprise. A strict adherence to the Ethical Code would have prevented the abusing of the dangerous drug by an unsuspecting public."

After the reading of a communication from the National Pharmaceutical Service Association by the secretary, Dr. Blumenschein for the committee appointed at the January meeting, presented the following resolution of protest:

Whereas, the recommendation of Surgeon General Ireland does not make provision for the recognition of Pharmacy the Profession, and

Whereas, the term Pharmacist as used by and in the U. S. Army may mean any person who may be detailed to the drug room; Therefore be it

Resolved, that the Pittsburgh Branch of the American Pharmaceutical Association is opposed to any regulation or legislation which does not give the same full recognition to Pharmacy as is accorded to any other necessary profession or technical branch or division of the U. S. Army.

The resolution was unanimously adopted. In response to the request of the Revision Committee of the National Formulary, Dr. Emanuel stated he had a number of suggestions to offer which he would formulate for presentation at the March meeting of the branch.

President Darbaker named the following as chairmen of the several committees: Publicity, B. E. Pritchard; Membership, R. S. O'Brien; Program, J. H. Wurdack.

WAR VETERANS

Every pharmacist who served in any capacity in the Army, Navy or Marine Corps or who did his, or her, bit in welfare work during the war, is eligible to membership in the War Veterans' Section of the American Pharmaceutical Association and *in the association itself* this year without the payment of dues.

There are approximately ten thousand pharmaceutically trained men who were connected in various capacities with the Army and Navy and more than three thousand of them have already been offered an opportunity to join the A.Ph.A. in its effort to place pharmacy—and military pharmacy in particular—on a higher plane.

Before any really worth-while results can be obtained, it is necessary that the great majority of these ten thousand men unite in a single organization and that organization can well be the War Veterans' Section of the A. Ph. A.

There is no red tape connected with "joining up." Just address a postal card to the secretary, W. D. Walters, Post Hospital, Fort Leavenworth, Kansas, and we will do the rest. Or, better yet, write him a letter and tell him something concerning your "Service record." An effort is being made to compile a history of pharmaceutical service during the war and there is no better way of getting the facts than to have them furnished by the men themselves.

SCIENTIFIC SECTION'S PROGRAM

During the annual convention of the American Pharmaceutical Association, which will be held in Washington, D. C., on May 4th to 10th, the Scientific Section will hold its meetings on Thursday, Friday and Saturday, May 6th, 7th and 8th. Those desiring to read papers before this section should submit them to the Secretary, Dr. A. G. Du Mez, Hygienic Laboratory, U. S. Public Health Service, Washington, D. C., not later than April 1st.

The officers of the Scientific Section are: Chairman, Jacob Diner, New York; first vice-president, A. R. Bliss, Atlanta; second vice-president, C. W. Ballard, New York, and secretary, Dr. A. G. Du Mez, Washington.

A GRANT FOR RESEARCH

The American Pharmaceutical Association has available a sum amounting to about $450 which will be expended after October 1, 1920, for the encouragement of research. This amount either in full or in fractions will be awarded in such manner as will in the judgment of the A. Ph. A. Research Committee produce the greatest good to American pharmaceutical research.

Investigators desiring financial aid in their work will communicate before May 1 with H. V. Arny, Chairman, A.Ph.A. Research Committee, 115 West Sixty-eighth street, New York, giving their past record and outlining the particular line of work for which the grant is desired. The committee will give each application its careful attention and will make recommendations to the American Pharmaceutical Association at its meeting in Washington, May 3d to 8th, 1920, when the award or awards will be made.

DRUG TRADE HONORS SERVICE MEN.

All branches of the Philadelphia drug trade united in honoring the returned soldier and sailor pharmacists at Lulu Temple on Friday evening, February 27. A committee consisting of representatives of the various pharmaceutical associations in and around Philadelphia had been busily engaged for several weeks in preparing for the reception, and their efforts wre crowned with success.

It is not often that pharmacists have an opportunity to gather socially, and the attendance of nearly 800 people, including about 225 service men, bore testimony to the fact that when the occasion presents itself, members of the Philadelphia drug trade responded loyally.

Edward T. Hahn acted as chairman of the affair and in his usually jovial manner made everybody feel at home.

Short addresses by service men relating their experiences in various branches of the service opened the program. These were interspersed by vocal selections rendered by the well-known soloist, Donald V. Redding. A stirring patriotic address by Capt. Donald Kirk was followed by a silent tribute in honor of the men who had fallen in the defense of their country. All of the service men were then presented with free membership in the American Pharmaceutical Association for 1920 by Dr. Robert P. Fischelis, chairman of the World War Veteran Section American Pharmaceutical Association. Serving of refreshments and dancing concluded the program of the evening, which was pronounced one of the most successful get-together affairs ever held by the drug trade of the Quaker State.

The service men and their subjects were as follows: Karl F. Ehman, "With the Guns"; Thomas J. Devine, "The Navy."

MINNESOTA TO FOUND SCHOLARSHIPS

State Pharmaceutical Association Elects Officers and Recommends Increased Pay to Educators—Major General Wood Addresses Convention

At the 36th annual meeting of the Minnesota Pharmaceutical Association, held in Minneapolis recently, the members adopted a resolution favoring the elimination of the three year course and fixing the minimum course at four years in the College of Pharmacy of the University of Minnesota. The resolution was introduced by Dean Frederick J. Wulling who explained that if the resolution is approved by the Board of Regents of the University, the degree of pharmaceutical chemist will be eliminated from those conferred by that institution. The abolition of the three-year course, Dean Wulling explained, was necessary to bring the educational standards of the college of pharmacy to a higher level. He further stated that the Government does not recognize the three-year degree, and civil service examinations exclude all chemists who do not hold degrees representing four years of technical college training

The association also went on record favoring the establishment of scholarships and fellowships in the College of Pharmacy, a fund for the purpose being started by the members, based on 5 per cent of the annual dues of the association and such personal subscriptions as might be obtained. Prof. Wulling started the subscription list with a donation of $100. The number of scholarships and fellowships will depend on the amount of money raised.

Dr. Gustav Bachman read a report of a series of sugar analyses that had been performed by students in the college, stating that evidences of adulteration had been discovered. Certain samples of the sugar analyzed contained foreign matter that was insoluble. The reading of this report was followed by a discussion by the members of the relative values of beet and cane sugar, some members declaring that beet sugar in some instances caused cloudy formations in some medicines. Dr. C. H. Rogers, of the College of Pharmacy, was of the opinion that the chemicals used in the manufacture of beet sugar were the cause of the cloudiness when preparations made with beet sugar were compounded with other medicines.

A resolution recommending increased salaries for professors and instructors of pharmacy was adopted, the position taken by the association being that these educators were of fundamental and vital importance to the pharmacists and people of the State, and therefore, the positions held by them should be made sufficiently attractive so that their services should not be lost through more remunerative offers from other fields of activity.

Dean Wulling, who had been offered a highly remunerative position to become general manager of a New York corporation, explained that he had so far declined the offer, although the proffered salary was more than twice his present salary. It was stated that the corporation was planning to market a new chemical preparation. Dean Wulling said that if the product was an ethical one, he would accept the position, but until the formula was submitted to him, he would not leave the University of Minnesota although the money consideration was large. An effort will be made to keep Dean Wulling at the University. C. D. Johnson, of Brainerd, in an address, suggested Dean Wulling as a successor to President Marion L. Burton, whose resignation becomes effective July 1. The suggestion was followed by cheering and applause.

John F. Danek, of Minneapolis, suggested a resolution urging the establishment of a permanent relief fund for losses sustained in disasters such as that of Fergus Falls last year. Mr. Danek explained that the fund would be purely a State affair, subscribed by members of the association only.

Among the guests present at the convention were Major General Leonard Wood, of the U. S. Army, and President Burton of the University of Minnesota. In his address General Wood said he came to enlist the pharmacists in the cause of good Americanism, and urged all to stand steadily by the government through the reconstruction period. "Whatever comes out of the League of Nations argument," he said, "must leave the country free to enjoy the privileges of freedom. It must build up a spirit of arbitration. Nations should debate their problems before rushing into battle; nothing can be lost by talking things over. America offers protection and opportunity and the citizens are bound to stand for things American because of this fact. The golden rule for labor, capital and everyone will carry the nation through the turmoil of agitation now assailing it." He urged support of one flag, one language and one loyalty.

President Burton recounted the progress of pharmacy in Minnesota and explained the needs of a new building and facilities for women students of pharmacy at the university. Other speakers were Dr. F. N. Heinbach, of St. Paul, who explained the regulations of the internal revenue department, and Caswell A. Mayo, a former president of the A.Ph.A.

The following officers were elected; President, Dr. E. L. Newcomb; 1st vice-president, Henry Trowbridge; 2nd vice-president, C. O. Deisner; 3rd vice-president, Theodore Arneson; secretary, Gustave Bachman; treasurer, R. J. Messing; member of executive committee, Donald Robertson.

St. Paul was chosen as the place for the next annual meeting, the date of which was not fixed. At the close of the convention, the annual banquet was held at the West Hotel.

The Commercial Travelers' Auxiliary, which held its meeting concurrently with that of the Minnesota Pharmaceutical Association, elected the following officers; President, David J. Laven; 1st vice-president, J. Loes; 2nd vice-president, L. W. Smith, Jr.; 3rd vice-president, Cad Diddy; secretary and treasurer, W. P. Fletcher; official representative J. W. Ross.

OKLAHOMANS TO MEET AT MUSKOGEE

The Oklahoma Pharmaceutical Association is scheduled to hold its thirteenth annual meeting at Muskogee on April 13, 14 and 15. An unusually interesting program has been announced, which includes a number of addresses to be given by well-known speakers from other States, among them being Theodore F. Hagenow, president of the N. A. R. D., St. Louis; Prof. James H. Beal, Urbana, Ill.; Henry D. Faxon, Kansas City, Mo.; Napoleon Hill, Chicago, Ill., and Carl F. Meyer, St. Louis. The sessions will be held in the Severs Hotel, where a banquet and entertainment under the auspices of the Pharmaceutical Travelers Association will be given on the evening of April 15. At the meeting the recommendation of names of individuals will be made for membership on the Oklahoma Board of Pharmacy, which will hold a meeting for the examination of applicants at Muskogee on April 12.

Grand Rapids Druggists Meet

Grand Rapids, Mich., March 22.—The Grand Rapids Retail Druggists' Association at the annual meeting at the Pantlind elected: President, Nels T. Eckberger; vice-president, Louis V. Middleton; secretary, Clyde Thomas, and treasurer, Peter Vellema.

At the banquet the Rev. Henry C. Roehner was toastmaster, and the speakers were R. J. Prendergast, Harvey Gish, A. P. Johnson and Walter Lawton.

DR. LANGMUIR RECEIVES NICHOLS MEDAL

Comparing the atom to a baseball which forms a part of the great World Series, Dr. Irving Langmuir, on Friday night, March 5, gave a modern exposition of the atomic theory before the New York Section of the American Chemical Society at Rumford Hall, 50 East Forty-first street, New York. His address was given in acceptance of the William H. Nichols medal awarded to him for the most original paper printed in the year 1919 in the publications of the American Chemical Society. His theme was "The Arrangement of Electrons in Atoms and Molecules." Dr. Langmuir, one of the best-known physical chemists in the United States, has had a very practical experience with the atoms and molecules and the forces which bind them together, for he is a research expert connected with the General Electric Company.

"According to our present views," said Dr. Langmuir, "all forms of matter are built up of atoms, but we no longer regard these atoms as indivisible nor even as simple structures. If a lump of ordinary matter the size of a baseball could be magnified to the size of the earth, the atoms in it would then have become about the size of baseballs. In other words, an atom is about as big compared to a baseball as the baseball is when compared to the earth. The atoms are constructed of particles of positive and negative electricity arranged in a very open structure. All the positive electricity is concentrated into a very small particle, called the nucleus, located at the center of the atom. The negative electricity exists in the form of electrons which arrange themselves in space about the nucleus. The size of the electrons and nucleus is small, compared with that of the atom itself. Thus, if we imagine an atom magnified until it has a diameter of one mile, the electrons would be about five feet in diameter, while the nucleus at the center would be only the size of a walnut.

"The electrons in different kinds of atoms are alike, but there are as many different kinds of nuclei as there are chemical elements, that is, about 92 in all. These differ from one another only in the amount of positive electricity they contain. Thus, for the simplest element, hydrogen, the nucleus has a unit positive charge which is able to neutralize the charge of a single electron. A hydrogen atom then consists merely of the nucleus and a single electron. The next element, helium, has a nucleus with a double positive charge, and the atom thus contains two electrons. In a similar way we find that the atoms of carbon have six electrons, while oxygen has eight, aluminum thirteen, sulphur sixteen, iron twenty-six, copper twenty-nine, silver, forty-seven, gold seventy-nine, lead eighty-two and radium eighty-eight electrons.

"This theory of atomic structure and chemical combination not only explains the enormous number of chemical laws which have been obtained by experiment, but it leads to important extensions and in some cases to modifications of these laws, while in other cases it has led to new relationships and has made it possible to predict correctly the properties of certain substances before these properties have been determined by experiment."

Dr. Langmuir was born in Brooklyn in 1881. He was graduated as a metallurgical engineer from Columbia University in 1903 and three years later received his doctor's degree from the University of Gottingen. He was for several years an instructor in chemistry in the Stevens Institute of Technology, Hoboken. He has done much research work in gas reactions, water vapors, iron pipe corrosions, and more recently in the application tungsten to electric lamps.

WESTERN PA. DRUGGISTS PROTEST

Pittsburgh, Pa., March 11.—The directors of the Western Pennsylvania Retail Druggists' Association have adopted the following protest and forwarded it to the Commissioner of Internal Revenue concerning the ruling that the name of the person to whom a narcotic prescription is delivered after filling must be written by the person receiving the same at the time of delivery on the back of the prescription:

> "Whereas, That portion of said ruling which demands the signature of the person to whom delivery of the prescription or preparation is made, is in many instances practically impossible to secure for reason that frequently the prescription is left with the pharmacist by the physician with instructions that it be delivered at the home of the patient, which would necessitate the sending of the prescription out of the pharmacy in order to secure the signature demanded, in which event there will be possibility of its being lost or stolen, which would leave the pharmacist unable to have it on file to meet the law's demand, Then, too, ofttimes the prescription is brought to the pharmacy by children too young to write, but at the same time well known to the pharmacist, and
>
> "Whereas, The name and correct address of the patient for whom the prescription is written has been in every instance placed thereon in the handwriting of the physician, therefore be it
>
> "Resolved, by the Western Pennsylvania Retail Druggists' Association, Inc., That the Internal Revenue Department be requested to so amend Article 148 as found in Regulation 35 as to eliminate the demand for the signature, and modify it so that it will be sufficient identification for the pharmacist to assure himself that delivery is made to an accredited reliable person whose name and address can be properly recorded on the prescription at time of delivery."

The Pennsylvania Department of Health requires of retail druggists, under provision of the Pennsylvania Anti-Narcotic Act and by order of the Commissioner of Health, that a monthly report be made to the Bureau of Drug Control of the Department of Health by every retail druggist filling prescriptions calling for narcotics in non-exempt quantities. A special order of the Commissioner of Health also requires of druggists that infant anodynes, baby drops and similar preparations containing morphine or opium, as well as paregoric sold for infants, shall be reported, as well as the names of the purchasers, the dates of sales, the names of preparations sold and the quantity thereof.

At the January meeting of the American Pittsburgh Branch of the American Pharmaceutical Association, the president, L. K. Darbaker, presented an interesting paper on "Vinegar Bees" and their method of producing vinegar, accompanied with sample jars in which these organisms were at work. Dr. M. J. Murdack gave a blackboard demonstration in detail of the action of acids on various metals.

B. E. Pritchard, secretary of the association branch, presented a paper on "Chemistry and the World War."

Iowa Pharmacy Commissioner Appointed

Governor W. L. Harding has appointed W. W. Hare of Fort Dodge, a member of the Iowa Pharmacy Commission to succeed D. E. Haddon of Alta. Mr. Haddon has been a member of the board for sixteen years.

Schools and Colleges

PROF. J. U. LLOYD IS AWARDED REMINGTON HONOR MEDAL

Announcement Made at March Meeting of College of Pharmacy of the City of New York—Elect Officers—Professor Wimmer Reads Instructive Paper

At the March meeting of the College of Pharmacy of the City of New York, Columbia University, held Tuesday evening of March 16, officers and trustees of the college were elected for the coming year. At last month's meeting of the college a Nominating Committee, with David Costello as chairman, was appointed. At the March meeting Mr. Costello reported the list of candidates named by his committee, which was immediately offered to the members for balloting. The following officers and trustees were unanimously elected:

Nicholas Murray Butler, president; Charles F. Chandler, first vice-president; Wm. Jay Schieffelin, second vice-president; Henry C. Lovis, third vice-president; Clarence O. Bigelow, treasurer; Charles W. Holzhauer, secretary; Arthur J. Bauer, assistant secretary.

Trustee to serve one year—Frank L. McCartney.

Trustees to serve three years—Jacob Weil, Frederick K. James, Irving McKesson, Theodore Weicker and Edward Plaut.

Announcement was made of the award to Prof. John Uri Lloyd, of Cincinnati, Ohio, of the Remington Honor Medal, given each year by the New York branch of the A.Ph.A. to the man or woman who has done most for American Pharmacy during the preceding year. Professor Lloyd, who was selected for the honor by vote of a committee of ex-presidents of the association, was himself a former president of the A.Ph.A. and is widely known as an authority on the natural history of drugs, and particularly those of American origin.

The presentation will be made to Professor Lloyd at a banquet to be given him at the Hotel Pennsylvania on Monday evening, April 19. The award is the second made for eminent services in pharmacy under the terms of the fund providing for the award of the medal.

The programme of the evening was concluded with the presentation of an illustrated paper by Prof. Curt P. Wimmer, head of the department of pharmacy of the college, on the topic of "Pharmacy and Pharmacists in the Dark Ages," which was very enthusiastically received by the members of the college and the large number of the student body present. In compiling the material for his paper Professor Wimmer had to do much research work, and many of the lantern slides shown on the screen were made from woodcuts, some of which were more than one thousand years old. The methods practiced by pharmacists in the years 800 to 1400 A.D. were most clearly and forcefully explained.

Up until the thirteenth century, Professor Wimmer said, the physician and pharmacist was one, usually a monk, who grew his own herbs and compounded his own medicines. He was generally trained by a three to six-month course at a monastery at Salerno, south of Naples, in Italy. The first drug store on record opened in Venice in the twelfth century. In the thirteenth century, pharmacies were established in all of the larger cities of Italy, France and England. In the year 1120, King Frederick II of Italy made the first pharmacy laws, which serve as a basis of those in existence today. He made the practice of medicine and pharmacy two distinct professions. The sole fixtures of a drug store of those days consisted of a work table, a mortar and pestle, and scales.

UNIVERSITY OF ILLINOIS

The senior students in the School of Pharmacy have had the pleasure of listening to several special lectures recently. One of these, by C. N. Schuler, head of the sponge department of C. P. Van Schaak & Sons, Chicago, was a discussion on sponges, their commercial history, preparation for market, qualities, proper handling and preservation and hints on stocking and sale. Mr. Schuler showed a large line of samples.

The students of the School of Pharmacy attended the fifty-second meeting of the Medical Research Club at the College of Medicine on Friday, March 12. The program included "Results of Experiments in the Passage of Substances through the Skin by Osmosis (with special reference to topical applications)," by Prof. Louis Kahlenberg of the University of Wisconsin, and "Osmosis in Relation to Clinical Medicine," by Dr. Edward H. Ochsner. Professor Kahlenberg discussed in a very interesting manner the theory of osmosis and made special mention of the osmotic properties of boric acid and its successful employment in certain forms of blood poisoning. He was followed by Dr. Ochsner who told of his experience in the use of this antiseptic, which he regarded as a specific for the treatment of this disease.

The annual commencement of the Chicago departments of the University including the School of Pharmacy, the College of Medicine and the College of Dentistry will be held at the Studebaker Theatre, Chicago, on June 12. The graduating class of the School of Pharmacy numbers nearly fifty, the largest for several years.

The Alumni Association will hold its annual banquet in honor of the class of 1920 on Thursday evening, June 10. A feature of the banquet will be the reunion of the members of the class of 1895, who will celebrate their twenty-fifth anniversary. President Umenhofer of the Alumni Association and Professor Gathercoal are members of the "twenty-fivers" and are planning for a successful reunion of the class.

The Chi Chapter of the Kappa Psi Fraternity and the Gamma Chapter of the Lambda Kappa Sigma Sorority are planning for a dance to be undertaken jointly by the two societies early in April.

UNIVERSITY OF WISCONSIN

The School of Pharmacy of the University of Wisconsin is cultivating a forty-acre medicinal plant garden west of the city of Madison, Wis. An acre each of peppermint, belladonna and henbane, a half acre each of wormwood, fox glove and horsenut and smaller plots of wild bergamot, ginseng and other miscellaneous plants are being cultivated. The garden is being maintained to produce plants for the market, to furnish data for the bulletins for those interested in medicinal herbs, to serve as a proving ground for medicinal plants now growing wild in the state and to furnish pharmacy students with plant specimens.

Extensive experimental work is being carried on under the direction of Professor W. O. Richtman on the fourth floor of the chemistry building. The pharmacy school is supplied with mills which grind up the roots and leaves. The extracted juices are used by the students in their training, the registered pharmacists at the university use the extracts to prepare medicines used at the Bradley Memorial Hospital, and considerable quantities are disposed of to the wholesale druggists of Wisconsin.

Announcement has been made of the appointment of Prof. Benjamin H. Schlomovitz, of the department of pharmacology at the University of Wisconsin, as director of the departments of physiology and pharmacology in Marquette University, Milwaukee. Prof. Schlomovitz has taught at the Universities of Iowa and Illinois, in addition to Wisconsin. During the war he was in the medical research divisions of the chemical warfare section.

UNIVERSITY OF MINNESOTA

Dr. Ehler gave a special lecture to the students of the College of Pharmacy recently on the Biological Standardization of Drugs.

The entire student body recently visited the drug mills of McLaughlin, Gormley, King & Co., devoting the afternoon to inspection and study.

The recent influenza epidemic took its toll from the pharmacy student body. Freshmen Maurice Quanrud and Walter Hansen died from the dreaded disease. Suitable resolutions were forwarded to the parents and class representatives brought floral offerings and attended the funeral services. Both young men gave rich promise of success in their work and the entire student body and faculty were stricken with grief at this dire loss.

The young women of the college, who last year began the preliminary work looking to the creation of a Greek letter sorority, finally organized themselves permanently early last fall into a sorority which they call the Kappa Epsilon. It has now completed its constitution and bylaws and selected its pledge pin, and will soon be ready to announce that it has completed its ritual. A sorority was first suggested many years ago when the young women organized the Spatula Club under the sponsorship of Mrs. Wulling. The present sorority has now taken the place of the club. The following named young women constitute the members of the chapter: Myrtle Abrahamson, Margaret Boothroyd, Verle Bryan, vice-president; Blenda Carlson, Glyde Gale, Irene Geib, Ruby Johnson, Ruth Jones, Josephine Nichols, Beulah Nisbett, Evelyn Nordstrom, Mildred Sanderson, treasurer; Elizabeth Schiesser, secretary; Esther Spetz, and Vivian Vogel, president.

Dean Wulling was recently elected to the Executive Committee of the Minneapolis Division of the National Safety Council. He was also elected president of the Men's Club of the Minneapolis Church of the Redeemer.

D. D. Turner was unfortunate enough to have to be confined to his home for about two weeks on account of illness.

Senior J. B. Dargavel attended the St. Louis meeting of the Grand Council of the Phi Delta Chi early this month as a delegate of the local Theta Chapter.

Junior C. Winzenburg was appointed to assist Dr. Newcomb in some of his work.

It is understood that at the last meeting of the Minnesota State Pharmaceutical Association a committee was created to establish an Endowment Fund for the purpose of endowing additional scholarships and fellowships in the colleges. The association went on record as endorsing the sentiment that no degree should be given for less than four years of University work.

The Minnesota Daily, a student publication, has recently had frequent affirmative references to the college of pharmacy and pharmacy students.

The signal honor of election to the presidency was conferred upon Dr. Newcomb by the Minnesota State Pharmaceutical Association at its meeting in February The faculty and student body both feel that this honor is richly deserved. Dr. Newcomb had been the secretary for a number of years. In this office he has been succeeded by Professor G. Bachman who was the unanimous choice of the Association.

After about six weeks of study and deliberation, Dean Wulling finally decided to decline the very attractive eastern business offer. The Dean had many letters and telegrams of congratulation upon his decision to remain in Minnesota.

PHILADELPHIA

Dean Charles H. LaWall, chairman of the Revision Committee, recently attended the meeting of the Board of Trustees of the U. S. Pharmacopoeia at St. Louis, where plans were arranged for the coming Pharmacopoeial Convention. George M. Beringer and Jos. W. England, members of the board of trustees of the college, were also in St. Louis at the same time, attending a meeting of the Executive Committee of the A.Ph.A.

After two years of rest, the college fraternities have resumed their pre-war activities. The Phi Delta Chi held its annual banquet at the Rittenhouse on March 5, the members of the faculty being present as guests.

The Senior Class annual hop, held recently at Asher's parlors, was attended by the entire membership of the Junior Class, who were present as guests and who enjoyed the evening quite as well as though they had arranged the program themselves.

The theme of the day with students is the revival of sports at the college, particularly basket ball, and with the large classes in attendance, there is a wealth of good athletic talent available.

Miss Anna Bonsall, the new librarian, is rearranging the library lay-out in an effort to bring it in closer accord with the most modern ideas of systematic book arrangement. A number of accessions have been acquired, and the library is being well patronized.

Prof. Samuel P. Sadtler, for more than forty years an active member of the faculty, and now emeritus professor of chemistry, on Feb. 19 delivered a lecture on "Cellulose and its Derivatives" to the special and post graduate students and the members of the Senior class. At the close of the lecture he received quite an ovation.

Prof. Heber W. Youngken, head of the department of botany and pharmacognosy, has accepted an invitation of the Board of Control of *Botanical Abstracts* to become editor of the section of that publication devoted to pharmaceutical botany and pharmacognosy. In this position he succeeds Prof. Henry Kraemer of the University of Michigan who was obliged to relinquish the work on account of poor health.

MASSACHUSETTS

An interesting session of the Massachusetts Library Club was held recently at the Massachusetts College of Pharmacy with addresses on library work by Miss Emma V. Baldwin, former secretary of the librarian of Brooklyn; Dr. Arthur E. Bostwick, librarian of St. Louis Public Library; John G. Moulton, acting president of the club; Miss Katherine P. Loring, a trustee of the Beverly Public Library, and Miss E. Kathleen Jones.

Educational Department

Devoted to Information, Criticisms and Suggestions on Pharmaceutical Topics of Special Interest to Era Course and Other Students.

Conducted by C. VERNE NICHOLS, Ph.C., B.A., M.S., Director of the Era Course in Pharmacy.

VALENCE AND ITS IMPORTANCE

The definition of valence—the power of holding other elements in combination—as given in the lectures, and quoted by most students as the answer to the question, "What is Valence?" is correct, but the application of this theory to the writing of formulas does not seem to be clearly understood.

From experiment and careful study of chemical changes it has been concluded that atoms of the elements are endowed with a definite and characteristic combining capacity. The number which expresses this maximum combining capacity of the element is called its valence. To represent correctly by formulas the different chemical compounds, it is absolutely necessary that the valence of the elements be known, and when the study of each new element is taken up the first thing to be memorized is the symbol for the element and its valence, both of which are given in the text in the name of the element.

Valence of Radicals

Not only have elements this combining power, but also many groups of elements, called radicals, possess this property, and from experiments we have learned that the carbonate radical has a valence of one; the hydroxide, one; the nitrate, one; the nitrite, one; the phosphate, three; the sulphate, two; the sulphite, two; the sulphide, two; etc.

In Lecture IV of Part I, the question is asked, "Give the formulas for the following compounds: zinc sulphite, calcium nitrate, . . etc." Referring to the text we see that zinc has a valence of two; and the sulphite radical a valence of two. Therefore, two atoms of zinc combine with two atoms of the sulphite radical to form zinc sulphite, which we express by the formula, $ZnSO_3$.

Calcium has a valence of two; the nitrate radical a valence of one. Therefore, two atoms of the nitrate radical combine with one atom of calcium to form calcium nitrate, or the proportion is 1:2; thus the formula, $Ca(NO_3)_2$.

Relation Between Guaiacol and Ortho-Dihydroxy-Benzene

Very few students attempting to answer this question have given the correct relationship. From the formula, it can be seen that the technical name for pyrocatechol ($C_6H_4(OH)_2$) is ortho-dihydroxy-benzene. A careful study of this formula and of the formula for guaiacol, ($C_6H_4(OH)CH_3$)—both given in the text—will show that one methyl group has replaced one hydroxyl group of the ortho-dihydroxy-benzene, and therefore, guaiacol is the mono-methyl ether of ortho-dihydroxy-benzene.

RECENT ERA COURSE GRADUATES

During the past month the following students have successfully completed the recitations of the Era Course in Pharmacy, and have submitted satisfactory answers to the questions covered by the Final Examination, thus entitling them to the diploma of the Course.

Matriculation Number		Graduation Average
10,202	Canic Polestra, Springfield, Mass.	89 %
10,718	Austin F. Zicht, Dayton, Ohio	96 %
10,318	Jose Chaple Sansano, Pinar del Rio, Cuba	88.5%
10,784	Walter J. Carohan, Lafayette, Colo.	95 %
10,410	William D. Eakes, Dover, Ark.	85 %

QUERIES ANSWERED

> ● Questions answered under this caption are of a general nature and are numbered consecutively, beginning with the issue of the Era for November, 1918.

322. What will best remove stains produced by potassium permanganate in a mortar or on the hands?

Permanganate stains may be removed with oxalic acid solution, either alone or with a little sulphuric acid.

323. How are collodions best dispensed?

Collodions are best dispensed in vials provided with corks to which camel-hair pencils are firmly attached; this enables the user to avoid loss by evaporation and drying of the collodion in the brush.

324. What are the official "scale" salts of iron?

Iron and ammonium citrate, iron and quinine citrate and ferric phosphate.

325. What are some other official substances which are described as occurring in the form of scales?

Bismuth and ammonium citrate, calcium hypophosphite, monobromated camphor, ammoniated glycyrrhizin, red mercuric oxide, pepsin, sodium salicylate, sulphonethylmethane, zinc valerate, benzoic acid, acetphenetidin, boric acid and ethyl carbamate.

326. What is the difference between ammonia water and spirit of ammonia?

Ammonia water is an aqueous solution containing 10 per cent by weight of gaseous ammonia. Spirit of ammonia is an alcoholic solution containing 10 per cent by weight of the gas, NH_3.

327. What is the difference between plaster of Paris and whiting?

Plaster of Paris is calcium sulphate containing about 5 per cent of water, prepared from the purer varieties of gypsum by carefully heating until about three-fourths of the water has been expelled. Whiting is calcium carbonate, being practically identical with prepared chalk and made by the pulverization and elutriation of crude chalk.

328. What is the difference between glucose and grape sugar?

By chemists the terms are frequently used synonymously to designate dextroglucose or dextrose. Popularly, and in a commercial sense, glucose is the term applied to the syrupy product, grape sugar to the solid product.

329. What are the official sugars and from what sources are they derived?

Saccharum and saccharum lactis. The first is obtained from the sugar cane, various species of sorghum and certain varieties of the beet. Saccharum lactis is a peculiar crystalline sugar obtained from the whey of cow's milk by evaporation and subsequent purification.

330. What are four official inorganic substances purified by sublimation?

Mercuric chloride, ammonium chloride, iodine and sulphur.

331. What are astringents?

Astringents are remedies employed to cause contraction of the tissues with which they come in contact and thus lessen secretion.

332. What are four official mineral astringents?

Alum, lead acetate, copper sulphate and bismuth subnitrate.

333. What are four official vegetable astringents?

Gambier, tannic acid, kino and uva ursi.

334. What official leaves of the natural order Solanaceae yield mydriatic alkaloids?

The leaves of belladonna, hyoscyamus and stramonium.

335. Write an equation showing the production of ethyl nitrite from alcohol.

$2C_2H_5OH + 2NaNO_2 + H_2SO_4 = 2C_2H_5NO_2 + Na_2SO_4 + 2H_2O$.

336. Complete the following equations and in each case cite an official substance which is sometimes made by a process in which the reaction occurs:

(a) $H_2SO_4 + C_2H_5OH = ?$ (b) $HgCl_2 + 2NH_4OH = ?$ (c) $2(CH_3)_2CO + 6CaOCl_2 = ?$ (d) $KI + KH_2PO_2 + 2H_2C_1H_4O_6 = ?$

(a) $H_2SO_4 + C_2H_5OH = C_2H_5HSO_4 + H_2O$. Equation shows the action of sulphuric acid on alcohol in the preparation of aromatic sulphuric acid.

(b) $HgCl_2 + 2NH_4OH = NH_2HgCl + NH_4Cl + 2H_2O$. Reaction in the preparation of ammoniated mercury.

(c) $2(CH_3)_2CO + 6CaOCl_2 = 2CHCl_3 + Ca(C_2H_3O_2)_2 + 2Ca(OH)_2 + 3CaCl_2$. Reaction representing the manufacture of chloroform from acetone.

(d) $KI + KH_2PO_2 + 2H_2C_1H_4O_6 = HI + H_3PO_2 + 2KHC_4H_4O_6$. Reaction representing the preparation of diluted hydriodic acid.

337. What precautionary measure against possible danger is recommended in cases where spirit of nitroglycerin has been accidentally spilled?

Great care should be exercised in dispensing and handling the spirit and if, through accident, it be spilled, a solution of potassium hydroxide should at once be poured over it to effect partial decomposition.

338. Why is ammonia water added to the liquids used in making (a) pure extract of glycyrrhiza? (b) washed sulphur?

(a) To form the soluble, sweet ammoniated glycyrrhizin. (b) To neutralize the sulphurous and sulphuric acids which may be present. For the latter purpose, ammonia water possesses a great advantage over the fixed alkalies in that any excess may be easily separated from the sulphur by simple exposure to air.

339. What elements are chiefly concerned in the formation of organic compounds?

Carbon, hydrogen, oxygen and nitrogen, the first two being indispensable elements to the formation of organic compounds.

340. What is fluorescence? What official substance is fluorescent under certain conditions?

Fluorescence is that property which some substances have of appearing to be colored when viewed in reflected light and colorless when seen by transmitted light. Quinine sulphate in acidulated aqueous solution shows a blue fluorescence. Other substances also exhibit similar properties.

341. Criticise the following prescription:

Rx.

Cocaine hydrochloride	2 grains
Sodium borate	10 grains
Rose water, q. s.	1 fl. ounce

M. Ft. solutio.

The cocaine is precipitated by the sodium borate. Boric acid should have been used instead of borax.

342. What is the distinction between "sulphurated" and "sulphuretted"?

There is evidently a distinction, although the terms are sometimes used synonymously by some chemists. As employed by competent authorities, however, the term "sulphurated" is applied to mixtures composed of or resembling sulphur, as "sulphurated lime" and "sulphurated potassa," while the term "sulphuretted" is applied to compounds which are saturated, impregnated or chemically combined with sulphur, as H_2S, "sulphuretted hydrogen."

WOULD RAISE STANDARD IN MARYLAND

The decision of the Department of Pharmacy, University of Maryland, to comply with the highest standards set by the United States Government with regard to the education of pharmacists, has taken the form of a bill which has been introduced in the Maryland General Assembly, providing that graduates in pharmacy must have had at least four years of high school and have graduated from a recognized college of pharmacy in order to register, while those who desire to register as assistants must have had one year of not less than eight months in pharmacy and two years' active experience in a drug store, along with not less than two years of high school and one year's attendance at a school of pharmacy. This proposed law will bring the requirements demanded by the State Board of Pharmacy for registration up to the standard provided by the Government, which is in force both in Pennsylvania and Virginia, the States on either side of Maryland. The objection has been raised that the requirement would tend to lessen the number of young men coming to Maryland for their pharmaceutical education, but the advocates of the measure maintain that a progressive attitude calls for such conditions.

The bill which would divorce the pharmacy and drug section from the act placing the State Board of Health in charge of the enforcement of the laws in the State and city relating to the conduct of the drug trade and turning such direction over to a commission, to be composed of five practical and scientifically trained pharmacists, has been introduced recently, the retail druggists, who are behind the measure, having decided to wait no longer in the hope of getting support from certain manufacturers and wholesalers. The legislative session is drawing to a close, and if anything is to be accomplished, it must be done soon. The advocates of the measure say they have the backing of various manufacturers and wholesalers and are in the position of being able to make out a strong case.

PARKE, DAVIS & CO. RE-ELECT OFFICERS

At the annual meeting of Parke, Davis & Co., directors were re-elected as follows: F. G. Ryan, D. C. Whitney, H. M. Campbell, Arthur H. Buhl, E. G. Swift, Jerome Remick, J. E. Bartlett. The directors re-elected the following officers: President, F. G. Ryan; vice-presidents, D. C. Whitney, H. M. Campbell; secretary and treasurer, E. G. Swift; auditor, N H. F McLeod; assistant secretary, J. E. Bartlett; assistant treasurer, Dr. S. S. Coleman

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According to the *Yakugyo Shubo*, published in Tokyo, the Imperial Japanese Government has approved a recommendation of the Department of Education, and will provide a fund of 300.000 yen to be expended over a period of three years for the extension of the pharmacological department of the Medical College of the Imperial University.

Women in Pharmacy

CONDUCTED BY EMMA GARY WALLACE

AROUND THE CIRCUIT

The sympathy of the entire drug trade goes out to Senator Charles F. Harding of Cincinnati, ex-president of the N. A. R. D., who recently lost his wife through an attack of pneumonia. Mrs. Harding will be greatly missed, not only in her own home, but in that wide circle of friends which she had drawn about her by her sincerity and kindliness.

The entire Woman's Organization sorrows with Charles A. Storer and son, upon the death of wife and mother at her home in Chicago, Feb. 16, after an illness lasting about two years. Mrs. Storer was a prominent organization woman, had served as president of the W. O. and was an earnest worker in Chicago Chapter, during that period of her life when her health permitted. Flowers were sent by the organization as a tribute of affection and deep sympathy.

The annual tea given by Mrs. Nellie Florence Lee at her home on Feb. 13, the anniversary of the organization of Philadelphia Chapter, No. 6, was a veritable valentine affair.

The decorations were in the organization colors, white and yellow. Mrs. P. H. Rohn poured, and delicious refreshments were served, a number of the ladies assisting Mrs. Lee.

A very unique birthday tribute in the form of a poem was sent to the Chapter by Mrs. J. Leyden White, one of the charter members. The poem follows:

BIRTHDAY GREETINGS!
Heartiest Congratulations and Best Wishes
To
Philadelphia Chapter, No. 6, W. O. N. A. R. D.

My greeting has miles to travel,
But every inch of the way
Increases the warmth of my wishes
For, "Happy Returns of the Day."
My "special wish" is that we may become more intimately acquainted with the following:

Self-knowledge: "The enchanting mirror."
This curious glass will bring your faults to light,
And make your virtue shine both strong and bright.

Contentment: "Wash to smooth wrinkles."
A daily portion of this essence use,
'Twill smooth the brow and peace of mind infuse.

Truth: "Fine lip salve."
Use daily on your lips this precious salve,
And redder lips and sweeter breath you'll have.

Prayer: "Mixture for the voice."
At morning, noon and night, this mixture take,
Your tones improved will richer music make.

Compassion: "Best eye water."
These drops if used both day and night
Will fill the eyes with love's pure delight.

Wisdom: "Solution to prevent eruptions."
It calms the temper, beautifies the face,
And gives to woman dignity and grace.

Attention and Obedience: "Matchless pair of ear-rings."
With these clear drops, appended to the ears,
Instructive lessons you will gladly hear.

Neatness and Industry: "Valuable Bracelets."
With these clasped on your arms each day,
Order and harmony with you will stay.

Principle: "Ring of tried gold."
Yield not this ornament while you live,
It will great calm and peace of conscience give.

Patience: "Necklace of Pearls."
These gems adorn the sweet and fair,
And bring reward in answered prayer.

Love: "Diamond Breast Pin."
On your bosom wear this precious pin,
It shines without, and warms the breast within.

Politeness: "A Graceful Bandeau."
The forehead neatly circled with this band,
Will admiration and respect command.

Meekness: "A Precious Diadem."
Whoe'er this precious diadem shall own,
Secures herself an everlasting crown.

Good Temper: "Universal Beautifier."
Use this choice liquid, and in truth
'Twill o'er the face impress the charms of youth.

My fondest love accept this morn,
And think of me when far apart,
For thou my memory dost adorn,
And thou dost hold my loving heart.

Mary Cornelius White.
(Mrs. J. Leyden White, Charter Member.)

Accompanying this gracious tribute was a letter in which Mrs. White said: "God bless you! Looking backward to the date you organized Philadelphia Chapter, No. 6, W. O. N. A. R. D., then following the 'mile posts' up to this year, I find you still sowing good seed in the soil, right where you stood then; still spreading joy in your work for those you serve so faithfully and unselfishly."

The February meeting of the Philadelphia ladies was cancelled on account of the terrific storm which raged at that time, the "flu" epidemic and traffic conditions. However, the banquet and dance celebrating the Chapter's thirteenth birthday, were held as planned at the Hotel Adelphia, on Feb. 12, Lincoln's Birthday. The attendance was not large, however, owing to the prevalence of the influenza and the fact that many of the husbands could not get away from their stores, their forces being somewhat disorganized by the epidemic. To those who were so fortunate as to be present, it was a most enjoyable evening. A fine dinner was served, the music was unusually good, and the young people danced from 10 to 12. Greetings and telegrams of good wishes were received from Mrs. S. C. Henry, Mrs. J. J. Seiberz, Mrs. T. H. Potts, Mrs. Farley and others.

A most enjoyable afternoon was spent by the members of Chicago Chapter, No. 2, on Feb. 10 at Roosevelt Hall, State Lake Building. The Philanthropy Committee gave the annual "Home Charities" Card Party. Refreshments were served and a social hour enjoyed. The Committee of Entertainment consisted of Mrs. H. E. Norton, chairman; Mrs. J. P. Crowley, Mrs. A. L. Coppock, Mrs. Otto Mentz, Mrs. H. L. Rauchert, Mrs. J. A. Mahaffy, Mrs. Charles Knight, Mrs. O. U. Sisson, Mrs. George MacDonald and Mrs. Frank Ahlborn. The prevailing epidemic of influenza had a tendency to lessen the attendance, as many of the women were helping their husbands in the stores, because of depleted forces, and could not be present.

The February meeting of Cincinnati Chapter, No. 5, the thirteenth birthday of this part of the organization, was celebrated at the home of Mrs. Henry Wagner. Mrs. William Brittain and Mrs. Fletcher acted as hostesses, and although the attendance was smaller than in previous years, owing to much illness and inclement weather, a delightful time was spent. It was decided to send flowers to those who were ill, and to offer to Mrs. Blesi the annual collection of the Birthday Party to help defray this expense.

The sympathy of all members of the Chapter went forth to Mrs. John Weik and to Mrs. L. C. F. Cramer, both of whom recently suffered the loss of their husbands by death. Mr. Cramer, who was a well-known member of the Ohio Valley Druggist Association, passed away after a very brief illness, at his home in Norwood, aged fifty-three. He is survived by his widow, a son, an aged mother, three sisters and a brother Carl, who is in the drug business in Madisonville.

St. Louis Chapter, No. 8, held its last meeting at the Planters' Hotel, with Mrs. Pauley presiding. Mrs. Hoenny gave an interesting account of the Woman's Chamber of Commerce and requested all to take an active part in a tea and "Living Pictures" entertainment to be given in Moolah Temple a little later. Through the splendid efforts and work of the Hostesses Committee, the afternoon was made enjoyable in the playing of card games.

Wilmington Chapter, No. 12, holds a unique record. Although its membership is not large, its work has been ambitious indeed, its first effort being directed toward a reform in the character of window displays. It was most successful in this undertaking. The Chapter is a member of the Delaware Federation of Women's Clubs, and helps to support the scholarship of the national organization. Its aims are largely philanthropic and social, although it has done some good legislative work, laboring for the passage of several laws touching pharmacy, and also co-operating with the State Federation in its undertakings for the advancement of women and children.

Sympathy is extended to Mrs. J. O. Bosley, whose mother recently passed away. It is hoped that by this time Mrs. Bosley's small daughter, Anna, is quite recovered from the serious illness which has held her a patient so long in the Surgeons' Hospital.

Louisville Chapter, No. 11, held its latest meeting at the Louisville College of Pharmacy, at which it was voted to give a donation to the building fund of the college. A campaign to raise money for such a fund has been launched, and the Chapter desired to be one of the first on the list. The ladies wish to show their appreciation of the courtesies they have received from the college by raising a substantial amount.

Mrs. Oscar Paul, the first vice-president, presided at this meeting, owing to the indisposition of the president, Mrs. J. J. Seiberz. Seventeen members were in attendance. Mrs. O. C. Dilly read a very interesting and carefully prepared paper on "How We Live Today." A three-minute talk was also given by Miss Hall on behalf of the Young Women's Christian Association. There was a free discussion of the possibility of the ladies being able to furnish a club and complete club room when the College of Pharmacy was built and remodeled and the members started out enthusiastically with this thought in mind.

Mrs. N. B. Davidson, of the Executive Board, was made chairman of the impromptu dance, a delightful affair, given at the Hermitage. The members hope to have more of them.

A. W. Pauley, of St. Louis, well known to conventionites, is making excellent headway getting ready for the N. A. R. D. Convention next fall. Great plans are being made, and it is none too early to begin to put pennies aside for this interesting trip, which can be made a regular holiday occasion.

Mr. and Mrs. H. L. Kramer, of Mudlavia Springs Hotel, Kramer, Ind., were recently visited by a disastrous fire which destroyed the building and caused Mrs. Kramer a jewelry loss of $25,000.

Sympathy is extended to M. D. Orange, of Pilot Rock, Ore., whose wife passed away recently, after a lingering illness.

Mrs. Lyman Griffin presided over the February meeting of the W. O. B. A. R. D., held at the Massachusetts College of Pharmacy. The program took the form of what was designated as "Folly Day," and the sociability of the affair proved highly pleasing.

Mrs. Otto Otten, of Cincinnati, passed away at her home in Walnut Hills, after an illness of several weeks.

Mrs. Jean Sherburne is one of the officers and stockholders of the Carter-Sherburne Drug Co., of Lowell, Mass.

OREGON EX-SERVICE BILL DEFEATED

The Oregon Legislature at its special session in January refused to pass a bill providing for the registration as pharmacists in that State of any citizen who has spent two years in drug work while serving in the army or navy. The measure was opposed by the State Board of Pharmacy and by druggists generally. Already such service is accepted here in lieu of drug store experience or college training, but certificates are issued only after examination, and it was considered unwise to remove this qualification.

The bill as introduced provided that ex-service men, who during their two years in the army or navy, pursued a course of study in pharmacy and graduated as hospital apprentice, or a rating equal thereto, and thereafter while in the service were promoted to the rank of chief pharmacist mate, or with a rating equal thereto, and who prior to entering the service had clerked in some drug store two years or more, should be granted a certificate without examination. The bill was defeated by a heavy majority.

Albany Drug Firm Buys Hotel

Albany, N. Y., March 22.—The old Directory Hotel, at Broadway and Steuben street will be remodeled and occupied by the Bradt Drug Co. upon completion of alterations.

The lease of the Bradt Drug Co's store, on the northwest corner of Broadway and Steuben street, expires May 1, and in anticipation of this, the firm purchased the Directory Hotel a few weeks ago. The drug concern will occupy the first floor, and the two upper floors will be devoted to office rooms. The building has a frontage of 47 feet on Broadway and 83 feet on Steuben street.

Boards of Pharmacy

KENTUCKY

At the meeting of the Kentucky Board of Pharmacy held at Covington Jan. 13 and 14, twenty-two applicants for registered pharmacist and five for assistant pharmacist licenses were examined, the following being successful:

Registered pharmacists—S. S. Ardery, Jr., Paris; Harry Beneshowitt, Cincinnati, Ohio; J. W. Carl, Louisville; Edward C. Decker, Cincinnati, Ohio; Oscar Demling, Louisville; Clarence Hinkle, Barbourville; B. C. Major, Hopkinsville; William D. Nave, Jr., Lexington; Sidney E. Passamaneck, Louisville; Jos. C. Seitz, Louisville; Miss Mary Snyder, Covington; Chas. M. Tye, Pineville; John S. Ulrey, Newport; Robert Van Beber, Middlesboro.

Assistants—Lee C. Espel, Cincinnati, Ohio; John F. Hartig, Newport; Russell C. Paulson, Louisville; Herbert L. Pick, Cincinnati, Ohio; Orie Lee Baldwin, Covington; Orrin C. Burton, Lexington; Walter J. Casper, Lexington; Leonard L. Layne, Ashland.

Dr. Linwood A. Brown, Lexington, qualified as the newly appointed member of the board to succeed William Votteler, whose term of office expired. The next meeting will be held in Louisville on April 13 and 14.

CALIFORNIA

The following applicants were granted certificates at the recent meeting of the California Board of Pharmacy.

Assistants: Carter A. Cannon, William H. Coad, Nicholas Zipkin, Boris A. Belkin, John H. Gamsjager, Herbert R. Schoenthal, Harry A. Starr, Donald J. Gillis, Leo O. Burt, Benjamin Thorne, Adelbert P. Cogswell, Harold E. Pratt, Raoul Godbout, Donald C. Norton, Milton M. Niemetz, Bertice F. Lindsey, Henry C. Grinager, Bruce E. Monroe, Kenneth S. Barber, Harold F. Gilliam, Charles V. Taylor, William B. Hansen, Albert E. Raney, Harry S. Muckjian, Sawaji Misawa, John J. L. Doyle, Grace M. Wigg, Percy M. Vernon, Edwina H. McElbern, Bernice McLaughlin, Frank J. Corrick, Clarence R. Butler, Irby C. Hallford, George L. Buttgenbach, Robert S. Knight, Ralph S. Hibbard, Charles H. McLeod, Carl L. Boehringer, Dorothy C. Pringle, Roy Shelley, Francis Keville, August Niderost, Jr., Vincent Marley, George P. Baker, Norman Rudy, John G. Feutrier, Lafayette E. Burns, Walter C. Trobee, Arthur H. Meese, Martin P. Bastiani, Herman Correia, Charles F. Purdy, Fred A. Gates, Phil. B. Ready, Elner C. Treuting, Milton J. Hart, Francis C. Moodey, John F. Galvin, Gustaf A. Ross, Earl R. Haverfield, Francis W. Flanagan, Roy W. Robinson, William J. Bourgoin, Sanford Kornfield, Orson H. Adams.

Licentiates: Otto C. Blum, Park B. Jolley, Elmo Loynd, Glenn H. Addis, Ernest W. Hunt, Raymond S. Cheney, Jerome C Hurley, DeLacy Clarke, Shonosuke Ishikawa, Hubert R. Gaskins, John James O'Grady, Follett F Morris, George V. Pinion, Earl H. Perry, Ernest C. Pruess, George J. Landry, Paul Williams, Hirram F. Boen, William T. Hunter, Colin A. McDonald, James E. Carroll, Frank G. Artana, Rudolphus C. Knowlton, William L. McGeorge, Clarence S. Cain, Nathaniel Washington, Napoleon L. Jean, Milo R. Castle, Theo. A. Bordelon, Adolphe Drabkin, Joseph H. Wright, Helen Stiles, William V. Boynton, Norton K. Crosby, Charles C. Impastato, William W. Gibson, Ivory E. Kemble, John H. Nankivell, Harry E. Claubes, Robert G. Shoults, George H. Frazier, Leonard Freedman, Gervass G Gaffney, Clarence A. Diebold, Howard G. Lawrence, Walter A. C. Janssen, Philip L. Chiles, Oliver W. Delany, Louise M. Hund, Lloyd G. Tyler, Otto W. Reynolds, Philip S. Haley, Zoe Coats, Noel F. Got, Charles L. Callis, Earl Massoni, Henry I. Mishkind, Elmer F. Tostevin.

Credentials and 20 years experience: C. L. Becker, Ernest R. Brown, Walton G. Cannon, Edward M. Carpenter; Jared L. Dodge, Lew R. Dunfee, George R. Gibson, George E. Griffin, Harry Hansch, William G. Holloway, Thomas E. Jones, Frank E. Jones, Joseph F. Mott, Jesse I. Bailey, Albert R. Miles, Walter Master, Thomas J. Medland, Robert C. Mathews, Axel E. Mossberg, Joseph C. McDowell, Frank Parker, Frank S. Porter, Clarence H. Renfrew, Charles F. Rutherford, August R. Specht, Dedo Storbeck, Robert U. Barrois, Frank M. Siggins, Joseph A. Shea, Charles D. Sheckler, Henry A. Stiles, Milton R. Shotwell, Joseph V. Woodhead, William A. Weightman, Walter D. Murphy, Frank W. Keyes, Guy K. White, John W. Miller, George F. Brasington.

The next meeting of the Board will be held in Los Angeles on April 12, the examination beginning on April 14, and at San Francisco on April 19, the examination beginning on April 21.

ILLINOIS

The Professional Committee for Pharmacy provided by the law of Illinois held a meeting in Chicago in January at which the following applicants passed successful examinations:

Registered pharmacists: Morris Altshuler; J. S. Annunziata; Walter E. Brown; Peter M. Clair; John A. Czachorski; Daniel J. Doherty; Harold I Early; A. C. Friedley; Solomon Goldberg; Wm. Gollub; Benjamin Kaplan; Sister Mary W. Konopinski; A. R. Langerman; Morris I. Minovitch; Wm J. Nowak; Richard N. Oliver; Louis G. Park; Wm. J. Ritter; Isaac Ritzlin; Abraham Shenker; Mrs. B. H. S. Shlifer; Samuel M. Trogman; Wm. F. Tursman; B. S. Weinshenker; Aaron Wernick; Daniel B. Zoub, all of Chicago and Clement Jordan, Wapella; H. A. Kimball, Albion; H. A. Latsis, Forest Park; Adam E. Muench, Glencoe; Henry R. McCann, Benton; Lester Neil, Springfield; Henry D. O'Neil, Girard; C. P. Trowbridge, Marseilles; Byron L. Windsor, Ohio.

Assistant pharmacists: Max E. Ahnert; H. J. Barwig; W. H. Brown; G. C. Bushby; Harry Cohen; Robert W. Dunn; Ira I. Eisenberg; A. J. Gordin; Joshua Holland; Ellene F. Hurley; Mitchel Hurwich; C. R. Israel; M. M. Killings; C. A. Maether; I. T. Matthei; W. I. Menard; E. W. McLaughlin; Louis Neer; John R. O'Conor; Clyde M. Pate; Mrs. Ruth Rose; F. J. Schultz; Aaron Sheffer; J. P. Sternsbein; Morris Vaslow; Cassie C. White; George W. Zeman, all of Chicago and T. E. Almond, Aurora; A. W. Balzer, Quincy; Wm. E. Brown, Quincy; LeRoy F. Gronzo, Oregon; C. E. Holston, Nashville; F. O. Merrill, Des Plaines; C. W. Olander, Rockford; I. L. Thomson, Pontiac; O. W. Vanderveer, LaGrange; Emanuel Zoub, Chicago.

The next examination for applicants for registered pharmacist will be held in Springfield on April 14 in the Senate Chamber. Examination for applicants for assistant pharmacist will be held in Springfield on April 15, in the Senate Chamber. All applications, affidavits and fees must be on file at least ten days prior to the examination.

MONTANA

Charles J. Chapple of Billings, and W. R. Montgomery of Butte have been reappointed by Governor S. V. Stewart as members of the Montana State Board of Pharmacy.

NORWICH CO'S REPRESENTATIVES AT COLUMBIA, S. C.

T. F. Currens, Eastern sales manager, and Dr. M. W. Stofer, medical director of the Norwich Pharmacal Company, manufacturing pharmacists, Norwich, N. Y., recently returned from an inspection tour of the Company's Southern territory. While on the trip they held conferences with the company's representatives at Columbia, S. C., Atlanta, Ga., and Jacksonville, Fla. The photograph reproduced above was taken at the conference held in Columbia.

JUST A CHANGE IN NAME

The Etna Chemical Company which for many years offered Phenalgin to the medical profession, announce that on March 1 they were succeeded by George C. Cook & Co., Inc., which will continue the same sales plans which, heretofore, with the co-operation of the drug trade through which all sales are made, brought about the success of the company's business.

THIS IS CASCARA YEAR FOR DRUGGISTS

Every druggist is going to sell more cascara this year. Specifically, he is going to sell more Cascara Evacuant and Fluid Extract of Cascara (P. D. & Co.). The reason is plain. Parke, Davis & Company began in February an advertising campaign among physicians in fifty medical journals that will continue throughout 1920, while samples of these remedies are being distributed to physicians throughout the United States and Canada.

An interesting booklet, "Two Cascara Products," is being distributed among medical men. This booklet tells physicians how Cascara Evacuant differs from ordinary aromatic cascaras; it also describes Parke, Davis & Co.'s justly celebrated and original Fluid Extract of Cascara. Traveling representatives are carrying the cascara story directly to physicians. This propaganda is being supplemented by follow-up letters.

The effect of this campaign is already being felt by the druggists of the country. Physicians are daily prescribing Cascara Evacuant and Fluid Extract of Cascara (P. D. & Co.). The druggist, of course, benefits thereby. He fills the prescription and makes a nice, long profit out of the manufacturer's advertising campaign.

"BAYER" SALES TIPS

Better salesmanship is very often only a matter of helpful suggestion. This is doctrine from the Bayer plan of securing greater profits for the druggist. Bayer offers a very plain example of how an ordinary inquiry for a dime's worth of Aspirin may easily be turned into a more profitable sale for the druggist and greater satisfaction for the customer. "You wouldn't sell a dime's worth of Castoria, Pape's Dyspepsin, Danderine, or any of a score or more standards. It is only habit that impels your customer to ask for ten cents' worth of Aspirin," says Bayer.

The point is made that Aspirin buyers expect "Bayer Tablets of Aspirin," and that the remark, "You'll find full directions in every unbroken Bayer package," will clinch a better sale for the druggist. "Of course," says Bayer, "if the customer insists on ten cents' worth, you can sell him from a larger Bayer package."

Practical tests of the Bayer plan prove that customers want genuine Aspirin prescribed by physicians for twenty years. Continuous Bayer advertising is driving this home to millions of people. It's easy to sell "Bayer" packages. The Bayer Company (Inc.), invite druggists to write for a free window display in colors, another attractive help to larger Bayer sales.

BEATING OLD HI COST

President H. E. Mechling, of the National Association of Dyers and Cleaners, declares that the cost of clothes can be reduced by getting more wear out of old clothes by cleaning and dyeing them. In the Diamond Dye newspaper and magazine advertising campaign now going on, this very thing is being urged upon the women who are shown a way to keep right up-to-date in style and yet save the tremendous cost of new garments. In this "Diamond Dye" advertising, the human interest note is struck. It is copy which is creating demand for "Diamond Dyes" among people who are learning that it is fun to dye, as well as an exceedingly happy way to beat old "Hi Cost." Dealers are taking renewed interest in Diamond Dyes, for under the present sales plan the profits figure 82% for those who take advantage of the offer of a dozen free packages with every purchase in twelve dozen lots.

NEW RULING ON VANILLA BEAN IMPORTS

J. W. Leggett, of the firm of Mattoon & Co., custom house brokers of San Francisco, is directing attention to a recent ruling of Collector of Customs John O. Davis and declares that if it is carried out San Francisco will cease to be a factor in the vanilla bean import trade. This firm and several others have sent telegrams to Washington protesting the ruling which requires payment of duty on entire consignments of imports from which repacked withdrawals for local distribution have been made.

Heretofore, importers have been permitted to repack the beans, after entering them in bond, and then withdraw them from time to time, with an import duty of 30 cents a pound if sold locally, or duty free if sold to foreign purchasers. It is necessary to open all shipments immediately for the removal of moldy beans, and if the ruling in regard to repacked beans is allowed to stand the importation of vanilla beans with doubtless be transferred to other channels. Vanilla bean imports for 1919 amounted to $172,557, or treble that of the preceding year.

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When you want goods in a hurry you can bank on the Goodrich Distributor. Forty-seven distributors selling Goodrich Rubber Goods are now giving you preferred service.

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Rubber Sundries

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TRADE MARK

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C. A. LORING RESIGNS AS P.-W.-R. MANAGER

Charles Allen Loring resigned as manager of Powers-Weightman-Rosengarten Co. on March 1 that he might devote more time to the interests of the North American Dye Corporation, of which he is secretary and a large stockholder. The corporation, which manufactures the well-known and widely advertised Sunset Soap Dyes, has factories in Mt. Vernon, N. Y., and Toronto, Canada.

CHARLES ALLEN LORING.

Mr. Loring became associated with Powers & Weightman in 1901 as a traveling salesman, and in 1905, on the consolidation of the concern with Rosengarten & Sons, he was appointed manager of the New York office, in which capacity he built up a large trade for the company in domestic and foreign fields. He has a broad knowledge of the chemical and allied industries which will be of great service to him and his associates in his new field of endeavor, and the North American Dye Corporation is to be congratulated on securing so valuable an addition to its official family. Mr. Loring will continue to act in an advisory capacity and remain on the board of directors of the P.-W.-R. Company.

Directors of the American Druggists' Fire Insurance Co. organized recently by electing the following officers President, Charles L. Avery, Chicago; vice-president, L. G. Heinoritz, Holyoke; secretary general counsel, Frank H. Freericks, Cincinnati; treasurer, George B Kauffman, Columbus. The officers with Walter Rothwell, Hatboro, Penn., A. O. Zwick, Cincinnati, and J. H. Beal, Urbana, Ill., comprise the executive committee. An advisory committee of twenty-four will be appointed by President Avery in the near future.

HANDLING OILS FROM THE ORIENT

The vegetable oil business has assumed large proportions at the Pacific coast ports, particularly at San Francisco, and facilities have been provided for handling it on a large scale. Modern methods have greatly lessened the danger of leakage and spoilage and are in a great measure responsible for the increase in shipments.

Practically all the vegetable oils that are imported, with the exception of bean oils, require heating in transferring from barrels to tank cars, particularly during cold weather. It has been found that oil is damaged if direct heat is applied, and the plan has been adopted of installing steam pipes under a false floor and heating the oil gradually. After the oil has been heated to the desired temperature, the barrels are placed on dumping troughs, where they remain for at least twenty minutes to insure the draining of the full contents. Oil received in cans is heated in the same rooms and dumped into the troughs.

Of late much of the oil from the Orient has been brought in tank steamers, fuel oil forming the cargo from San Francisco and vegetable oil being brought back. The tanks in these vessels are equipped with heating coils to melt the oil, and frequently it is pumped directly into tank cars for shipment to manufacturing centers. Oil-making plants have been installed in the Orient and in the South Sea Islands, and as a result less copra and beans are being imported and oil importations are on the increase.

FIND CAMPHOR SOURCE IN SAGE

The growing scarcity of gum camphor and the steadily increasing price is interesting research men and producers in finding a supply in California. It is believed that camphor oils can be produced in commercial quantities here, there being several plants in which these are present. California sages contain camphor, menthol, thujol, borneol and thymol in varying proportions, and the method of recovery by steam distillation is not complicated or expensive. The entire group of oils are recovered together, and the true gum camphor may then be frozen out and the remainder separated by fractional distillation, as is done with gasoline, kerosene and lubricating oils.

The California bay tree, which is closely allied to the Oriental laurel, contains these hydro-carbons, but the most prolific source of supply seems to be artemesia trifolium, the desert sage of the Western plains.

BENZOL AS MOTOR FUEL

In a 10,000-mile test of benzol as a motor fuel, under the supervision of experts appointed by the British Institute of Automobile Engineers and the Automobile Association, the motor spirit conformed to the specification that the National Benzol Association is endeavoring to get recognized as a standard. The average mileage per gallon worked out at 24.75. At its highest the mileage reached 27.71 per gallon over a distance of 115.5 miles, and the lowest was 18.56 over 129.98 miles, while a fair average touring speed of 23.46 miles an hour was maintained throughout.

TANGLEFOOT
The Non-Poisonous Fly Destroyer
The United States Public Health Service advices: "Arsenical Fly-Destroying devices must be rated as extremely dangerous, and should never be used."

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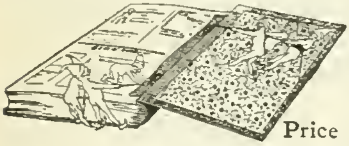

A BINDER
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Encouraging Crude Drug Production

Among the various facts brought to attention during the World War was our dependence upon other countries for crude drug supplies. Not that any one would expect the United States to produce its own gum arabic, asafetida or nux vomica, for it is a matter of common knowledge that the plants producing these drugs can thrive only under favorable conditions of climate and regional environment. The war also brought home the fact that we were similarly dependent upon other countries for supplies of botanicals, a number of which are to be found growing in a wild state in many parts of the country, but which, owing to various causes, no systematic effort had been made to collect and bring to market.

The experiences the drug trade has passed through during those trying years have brought about a general awakening to our necessities in this direction, and the possibilities of successful medicinal plant farming are being considered by those in charge of colleges of pharmacy and agricultural experiment stations generally. The United States Department of Agriculture, through the Bureau of Plant Industry particularly, has done much pioneer work in an experimental way, and generally speaking, the results obtained have been most valuable in showing what plants can be grown best under farm conditions; for farmers who would specialize in growing medicinal plants as a crop, must grow them upon a scale comparable to that followed for the production of other crops. To do this requires not only considerable land for the purpose, but the farmer must be provided with sufficient capital to tide him over the interim between the marketing of his crops. If a drouth or "off year" intervenes, so much the worse does he need other resources to keep things going.

In recent years the shortage of labor has interfered to a large extent with the collection of drug plants growing wild, a condition that is likely to continue for some years. For this reason, it was often in the past cheaper for the dealer in crude drugs to purchase his supplies from abroad, even though some of such drugs could have been collected from plants growing in the wild state here. Now there is a general dearth of supplies of botanicals in all of the markets of the world, and it is important that domestic sources of supply should be encouraged more than they have ever been in the past. Abroad, the attention of experts is being directed along this very line, particularly by men who wish their respective countries to secure a large share of the world's trade in such products. This general interest in the medicinal plant and herb-growing industry at this time emphasises the necessity of further effort in plant cultivation at home.

Suppressing the Opium Traffic

When the nations of the World agreed to restrict the opium traffic Great Britain reduced the output of the Indian Government Monopoly and the Chinese Government suppressed the sale of the gum and its derivatives in China. The importation of Indian opium into China ceased in April, 1917, so far as official recognition of the trade was concerned, but supplies were then obtained surreptitiously from Japan and from the United States The customs statistics of Kobe, Japan, show that 25,378 ounces of morphine salts were imported from America during the first five months of 1919, but it is claimed that the amount sent to Kobe during that period exceeded 100,000 ounces and that the larger part was trans-shipped in Kobe harbor for ports in China, and it does not appear, therefore, on the Kobe customs records.

The United States being a party to the Hague agreement has taken steps to suppress exports of narcotics, as far as possible, to countries in the agreement or those having laws against the importation of narcotics. The Treasury Department's revocation of its regulation which authorized the exportation of certain narcotics, caused consternation among manufacturers, wholesale druggists and dealers, and more especially among bankers who had made advances on considerable amounts of the 275,000 pounds of opium in bond in the United States on Jan. 1, 1920. Protests reached the Secretary of the Treasury in such numbers that he extended the time until April 30.

Meantime, exportations have been freely made to England, Germany, and Japan and a critical financial and commercial situation has been somewhat relieved. But how about the suppression of the traffic within the boundaries of the United States?

During seven months ending with January, 1920, according to the Monthly Summary of Foreign Commerce of the United States, the imports of opium amounted to 528,635 pounds valued at $4,622,236, compared with 74,652 pounds valued at $1,251,747 for the same period in the previous year. In January, 1920, the imports were 77,763 pounds valued at $411,516 against 8,538 pounds valued at $154,622 in January, 1919. The Rainey Committee appointed by Secretary McAdoo to study the opium question reported in June, 1919, that the United States with population of 92,000,000 consumed 470,000 pounds of opium annually, Germany with 60,000,000 population only 17,000 pounds, and France 17,000 pounds with a population of 40,000,000. The committee estimated that 18,300,000 narcotic prescriptions are filled annually in the United States, and reported that 1,100 manufacturers, out of 4,100 who replied to the question, stated that they used narcotics in their preparations. There seems to be necessity for watchfulness at home, as well as international precautions to prevent shipments to China and other drug-using countries.

Symposia at Pharmaceutical Meetings

An interesting method of providing a program for its evening session was that followed at the February meeting of the New York Branch of the American Pharmaceutical Association. Instead of permitting the members to wander off into extemporaneous discussions, a symposium on the subject of changes in the forthcoming United States Pharmacopoeia was arranged, and the time was divided among speakers who by especial fitness and preparation for the occasion could add something of value to the knowledge of the subject. Other pharmaceutical organizations have occasionally followed a similar method, which also appears to be quite commonly employed by some of the local sections of the American Chemical Society.

Such a plan, therefore, is not new, and the wonder is that it has not been more frequently followed. It could be used to effect a great saving in time and also to render the discussions more valuable and interesting. Profound knowledge of a subject and readiness to speak about it are not always found in the same person. The result is that fluent talkers frequently hold the floor, while others who might add real value to the discussion remain inarticulate.

Many practical men who possess much useful information, cannot be induced to arrange their thoughts in a formal paper. They may be ready enough to give their fellow pharmacists the benefit of their experience, but they feel that their bits of knowledge are not of sufficient importance to warrant the presentation of a long article. The preparation of a comprehensive paper also requires more study and time than the busy pharmacist can spare. A symposium, in which each adds only a part of a complete article, the part with which he is most familiar and about which he really has something to say, would give the quiet, modest, but exceptionally well-informed member a chance.

The symposium method should prove suggestive to those in charge of preparing the program for the various sessions of the average State pharmaceutical association, many of which are to hold their annual gatherings during the coming Summer months. A pertinent subject could be selected, which could be subdivided and assigned some weeks before the meeting, and each member requested to limit his discussion to the essence of his own knowledge and experience. A program projected along such lines would tend to eliminate not a few long-winded disquisitions call into action a larger number of practical workers, and add not a little to the sum total of common knowledge.

The award of the Remington Honor Medal provides a means of recognizing eminent services in pharmacy that could scarcely be attained in any other way. The presentation of the medal to Professor John Uri Lloyd last month was most felicitous and all the more meritorious, because the honor was so richly deserved.

The Awakening of American Pharmacy[*]

1820—A Bit of History

By J. W. STURMER, Ph.M., Phar.D., Philadelphia College of Pharmacy

Some knowledge of history is necessary if one would acquire a thorough understanding of the movements of men and the events which first gave an impetus to any great undertaking. Just a hundred years ago this month, the first general Convention assembled in the Capitol, Washington, for the formation of a National Pharmacopoeia. To the pharmacist. in the light of subsequent history, this event marked the beginning of a new era to those who practiced his calling. In the following paper, the conditions which obtained in America a century ago are described with much skill by Professor Sturmer. In many respects, 1820 was a pivotal year in American Pharmacy, a year, as the author expresses it, "when pharmacy. until then wholly dominated by European thought and precedent, awakened to its opportunity and struck for a certain independence."

THERE is no periodicity in the great events which mark the march of human progress. Only happenings correlated to the seasons keep step with the calendar. And when history repeats itself—which it never does except with variations—even numbers of years, or odd numbers, or decimal multiples, have no special significance—of course not.

But it is true that the year 1820 was in many respects like the present—1920. The chronicles of that early period seem strangely modern. We find references to high prices, labor disturbances, to unstable equilibrium in business affairs. political unrest, and evidence in Europe particularly, of that abnormal attitude of mind which in our time has lead to overt acts on a large scale, and which has received a Russian name. The fact is, after a hundred years, Europe and America both, again are passing through a period of convalescence following the exhausting distemper, war. In 1820, as at present, Europe was battle-scarred—then as a result of the campaigns of Napoleon. America was battle-scarred. too, for the burning of Washington and the victory of New Orleans, were still discussed as recent happenings. Men had gone to war: some had not returned. Many industries had been ruined. Certainly America in 1920 can realize the conditions which obtained a hundred years ago. In 1914, America could not have done so.

Era of American Literary Manifestation

But despite conditions seemingly so unfavorable. the period of 1820 marks a glorious renaissance in science and art. In literature, during the war period. or immediately thereafter, Moore, Shelley, Wordsworth, Keats, Byron, DeQuincey, Scott, Coleridge, Lamb. Goethe, Victor Hugo, were producing masterpieces;—yes, and Washington Irving and J. Fenimore Cooper. It was the era of the romantic movement, the greatest manifestation of literary genius since the time of Shakespeare.

Of composers there were Beethoven, and Shubert, and Mendelssohn, and other masters of the first rank. It was a golden age in music.

In science, there were Berzelius, Humphry Davy, Faraday, Cuvier, Dalton, Drummond, Gay Lussac, Proust. It was the dawn of the modern productive era of science, which has continued to the present time, making the last hundred years the most prolific in discovery in the history of the human race.

True enough, every sequence is not necessarily a consequence. And wars in the past have not without exception been followed by a notable advance in the conquest of nature. But who will question that the great war exploits which terminated with Waterloo and New Orleans did not stir to the depths the emotions of men, inspiring writers, composers, painters, and also men of science, and in the latter awakening latent imaginative faculties, so useful in research? And if this be true, may we not expect that the stupendous struggle so recently ended will also be followed by a pronounced quickening of creative and inventive genius? And, if so, we may be sure, America will furnish its generous share in results.

Apothecary Shops Begin to Appear

But in 1820, America could not be expected to figure prominently in art or science. Our country was new. The population was largely rural. A considerable proportion was distributed over vast areas but sparsely settled, where life was rather primitive, and where men were hard put to it to provide the elemental needs—food, clothing, shelter—then medical service for the sick, rudimentary schooling for the children. So it happened that when the scientists of the old world were engaged in extending the frontier of human knowledge, many of our most resourceful Americans were engaged in pushing the frontier of the white man's civilization westward. For in 1820 the great migration over the Indian trails, which had been transformed into roads. was in full swing. On the Conestoga Road, the covered wagons of the travelers headed for the land of mystery, adventure, opportunity—the West—were as numerous as the stannic Lizzies on our mountain roads during the summer months of more recent years. These men who with their families and their lares and penates, were moving toward the setting sun, were principally farmers. But with them traveled the carpenter, the mason, the blacksmith, the miller and the millwright, the merchant, the doctor, and the apothecary. When a town of some size had sprung up, in due course, there appeared the apothecary shop, and the ring of the pestle proclaimed that medicines were being prepared *secundem artem*. And who will say that the inventive genius displayed by our pioneer doctors and apothecaries, in adapting limited resources to many and diverse needs, was not—in certain instances at least—as great as that of many a European research worker who by virtue of his better facilities succeeded in getting results which warranted their being recorded in the annals of science?

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[*] Read before the January meeting of the Philadelphia Branch, A.Ph.A., and contributed by the author.

This was a truly heroic period in our country's history; it was the period of nation building, the various phases of which absorbed a large share of the energies of energetic men—the men who had also initiative.

"In the four quarters of the globe, who reads an American book, or goes to an American play, or looks at an American picture? What does the world yet owe to American physicians and surgeons? What substances have their chemists discovered, or what old ones have they analyzed?" These words wrote Sydney Smith in the January number of the "Edinburgh Review" in the year 1820. We need not take issue with him, although he was seemingly quite ignorant of American progress. Indeed, we may admit frankly that American books of the first rank were not yet numerous. Odysseus was too busy to devote time to the composing of Odysseys. But some promising youngsters were playing marbles in American school yards—Whittier, Longfellow, Emerson, Hawthorne, Holmes,—to mention a few: and in this year of the Missouri Compromise, 1820, the author of the Gettysburg address was doing his chores on a primitive Indiana farm.

Formative Period of American Science and Art

American science and American art also were in the formative period. There were houses to erect, bridges to build, canals to dig, roads to be made passable. Just as American literature was principally political in character, American science was largely applied science, and art, industrial. As for the pharmacist, he was busy in providing the most necessary medicaments, and had—speaking generally—as yet no time for scientific experimentation.

We must not overlook the fact, however, that at a time when America as a whole was still in the pioneer stage, the older and more densely populated districts near the Atlantic seaboard had attained to a high degree of culture. Here we find the colleges and universities of that period, and the learned societies, and the literary organizations, and the book publishers. It is here that we must look for the first developments in pharmacy.

In 1820, Philadelphia, which had served as the national capital and where all the great Americans of the early days had sojourned, the largest city in the country at that time, with 130,000 inhabitants, an important seaport, in close touch with the old world civilization—Philadelphia, the seat of a university and of the Institute founded by Franklin—became, as a matter of course, a center of learning. And medical sciences found here a particularly favorable atmosphere for growth. And hand in hand with the progress in medicine, we find the early progress of pharmacy.

Pharmacy Under European Influence

To be sure the apothecary of 1820 was practicing his art as it had been developed in Europe. If he was American-born, he had, in all probability, received his training under an apothecary who in turn had been an apprentice in a European pharmacy. If he was a rather recent accession to the population, he used, as a matter of course, the methods and the text books of his native land. The pharmacopoeias of London, Edinburgh and Dublin were at that time in constant use. Uniformity of practice was conspicuous by its absence; for there was no pharmacopoeia as yet for this new nation; nor were there any purity standards for drugs or medicines. As for legislative regulations governing the practice of pharmacy, no laws of that character had as yet been passed. There were neither pharmaceutical organizations, nor pharmaceutical journals. The important text books for pharmacists with the exception of the American Dispensatory, then already in its fourth edition, were foreign.

Drug Stocks in 1820

The drugs which the apothecary had on his shelves were imported; and so were his bottles, his jars, and in fact, his window-panes, which made up his odd little show windows. At this time, when Fulton's great invention, the steam boat, was still a novelty, and the word sailor still had its original meaning, the Delaware harbored ships from the most distant shores. And the inventories of cargoes, as published in the old time newspapers, include a large and varied list of drugs. It is from these inventories, in fact, that one may best reconstruct the old-time drug stock, for very few indigenous medicinal plants had received recognition. Here are some of the drugs which were deemed important in 1820—for they were obtained from overseas in large quantities: Aconite, Aloes, Asafetida, Belladonna, Benzoin, Camphor, Cantharides, Capsicum, Castile soap, Cinchona, Colchicum, Colocynth, Copaiba, Cubeb, Ipecac, Gamboge, Licorice root, Licorice extract, Hyoscyamus, Jalap, Lobelia, Myrrh, Nux Vomica, Opium, Rhubarb, Castor Oil, Sarsaparilla, Scammony, Squill, Tolu, Tragacanth, Valerian, Veratrum Album, Veratrum Viridi and Ginger.

Yes, the general aspect of the 1820 drug store, with its old-fashioned shelf-ware, was odd enough; but the antique bottles held drugs which have retained their popularity to the present day.

The apothecary's stock, was however, not limited to vegetable drugs; he had a sundry supply of chemicals, as follows: Hydrochloric Acid, Nitric Acid, Sulphuric Acid, Citric Acid, Arsenic, Alum, Ammonium Chloride, Black Antimony, Barium Sulphate, Lime, Chalk, Marble, Copper Subacetate, Copper Sulphate, Prussian Blue, Sulphate of Iron, Mercury, Calomel, Corrosive Sublimate, Magnesium Carbonate, Magnesium Sulphate, Lead Oxide, White Lead, Saltpeter, Potassium Carbonate, Cream of Tartar, Salt, Borax, Sodium Carbonate, Sodium Sulphate, Zinc Carbonate and Zinc Sulphate. His stock included the elements, Antimony, Bismuth, Copper, Iron, Mercury, Lead, Zinc, and Sulphur. These chemicals he bought, for they were even then made industrially.

The Apothecary's Little Laboratory

Many chemicals now made exclusively on the industrial scale were early in the nineteenth century made by the apothecary in his own little laboratory. To be sure, there were some, then as at present, who chose to buy rather than to manufacture. But the list of chemicals actually made in stores at that time is surprisingly large, and included the following: Solution of Ammonium Acetate, Tartar Emetic, Solution of Magnesium Bicarbonate, Silver Nitrate, Solution of Potassium Arsenite, Subnitrate of Bismuth, Lead Plaster, Iron Acetate, Iron Carbonate, Iron Oxide, Red Oxide of Mercury, Subsulphate of Mercury, Potassium Acetate, Rochelle Salt, Sodium Phosphate, Ointment of Mercuric Nitrate, Zinc Acetate, and Zinc Oxide.

Of pharmaceutical preparations there was a large and varied list. It included Medicated Waters, Medicated Wines, Medicated Honeys, Medicated Vinegars, Spirits, Infusions, Decoctions (made when required), Tinctures (made by maceration—10 days), Solid Extracts, Mixtures, (some of which were Emulsions), Liniments, Ointments, Cerates, Plasters, and Pills and Powders, and Confections.

It is indeed strange that the furniture and shelfware and equipment of the apothecary should have become in a hundred years so strikingly antique, while the materials which he dispensed, and with which he worked, should to so large a degree have continued in use, uninterruptedly to the present day. How many drugs in the old inventories of ship cargoes are now obsolete? Very few. And as to preparations, note how many have passed through nine pharmacopoeial revisions, experiencing radical alterations, but not deletion.

Early Apothecaries Men of Action

Nor should we picture the apothecary himself as an aged recluse, sitting at his desk, dressed in medieval garb, with metal-rimmed spectacles on his nose, "dandruff on his coat collar and a faraway look in his eye"—sitting there inactive, surrounded by alembics and other gimcracks of the alchemists' stage properties—the apothecary of fiction—with whom we have nothing in common. For then, as at present, men were old, or young, or middle-aged; and they exhibited many variations in personality. But we may be quite sure that the apothecaries of 1820, living at a period of great activity, when stirring events were transpiring, when political interest was keen, when Philadelphia was conspicuously progressive, when the men of the hour were men of action—that these old-time pill rollers lived an active and full life, with varied interests and that they were factors in this community.

But they indited no books They published but little. The histories of Old Philadelphia fail to chronicle their doings. Their shops and stocks have disappeared. The very buildings in which they lived and worked have in many cases made room for larger structures of modern architecture. Yes, the old apothecary of Philadelphia has vanished. "Like streaks of morning clouds he has melted into the infinite azure of the past."

Awakening to the Century's Opportunity

The beginning of a new year always induces a retrospective mood, and it may even lead us to read history. But why should we have a particular interest in 1820, aside from the interests which attached to a time an even hundred years ago? The fact is, 1820 marks the close of an epoch. It marks the time when pharmacy, until then wholly dominated by European thought and precedent, awakened to its opportunity and struck for a certain independence. That very year the first national pharmacopoeia was issued. A few months later, in Carpenter's Hall, the first organization of apothecaries was formed. And a few months after that the Philadelphia College of Apothecaries opened its doors for the first session and for the first class of American students in pharmacy. Hence 1820 has special significance for pharmacy. What 1776 is to us as Americans, 1820 is to us as American pharmacists.

USES OF CALCIUM CHLORIDE

In machinery for making ice used in ice factories, meat packing houses, cold-storage warehouses, chemical works, and oil refineries brine is pumped through coils. A calcium chloride solution will withstand lower temperature without freezing than salt brine and has an advantage over the brine because it has no action on iron or brass, thus giving longer life to the pumps, coils and tanks. Calcium chloride costs more than salt, but less of it is required for a given amount of refrigeration.

A solution of calcium chloride in fire buckets has an advantage over water in that it does not corrode metal, has a lower freezing point, and does not become foul. Because of its affinity for water it tends to keep the buckets full by extracting moisture from the atmosphere. It has long been known that brine is much more effective than water in extinguishing a fire. This is due to the fact that when the brine is thrown on a fire the liquid evaporates and the salt is left as a protective coating on the burning surface. A solution of calcium chloride, therefore whether in an automatic sprinkler or in a fire bucket is especially valuable.

ERRATA

The paragraph commencing "A mixture of 1.25% cresol, etc." occurring on the twenty-fourth line of page 101 of The Pharmaceutical Era for April, 1920, is in error. This paragraph should read as follows:—

"A mixture of 3.5% of cresol, 75% of 'pine oil,' flavoring proportions of oil of citronella, nitrobenzene, 'coal-tar cresote oil' and kerosene q.s. 100% yielded a quite similar product."

Yours truly,

Geo. E. Ewe.

Philadelphia, April 12, 1920.

Interesting Features of Digitalis

Mystery of Drug Still a Live Subject and Presents Several Questions for Answer

By **HERBERT C. HAMILTON**

(*Continued from April Era, page* 104)

Bennefield in 1881 examining tinctures of digitalis applied the method of injecting the solution into the jugular vein of the cat until death takes place. This is the method now known as the Hatcher Cat Method.

Bardet in 1889 first used frogs in the method now known as the M.L.D. method, in his examination of digitalis.

Fraenkel in 1902 first suggested the systolic stoppage of the heart in one hour as the end-point and thus originated the U.S.P. method.

It is evident therefore that none of the methods now in use is original except in so far as it makes the test quantitative.

University of Minnesota Digitalis

During the war, University of Minnesota digitalis attained considerable prominence due not necessarily to the exceptional quality of the digitalis, but to the psychology of the thing. The University offered to supply to the Government, digitalis which was not only home-grown, but *really standaraized* and not merely tested on frogs.

The sentiment without the frills was admirable. One regrettable feature is that this method *par excellence* by which the value is established and possibly maintained, has never been given publicity. It is generally supposed to be Hatcher's Cat Method, but Newcomb, the assistant dean of the Pharmacy Department, recently said to me that the use of the cat is the least important part of the method. He also stated that the M.L.D. or M.S.D. is not a good or reliable standard, as we do not give digitalis to cause systolic stoppage, but to reduce the heart rate through its action on the bundle of His and that this action is entirely distinct and separate from the M.L.D. action.

There are no data to show that digitalis owes any of its therapeutic virtues to a non-toxic constituent or that the toxicities of the various constituents are not approximately in proportion to their valuable properties.

I have very recently had occasion to test the Minnesota digitalis, unfortunately as crude drug and not as finished product, from which I made a tincture and find it in no respect superior to the quality of occasional commercial lots of drug, since drug of as high value can be produced with proper conditions anywhere. But manufacturers cannot get supplies of digitalis uniformly so high in activity; and uniformity, as for example conforming to the U. S. P. standard, is much more essential than to produce in relatively limited quantities a drug of exceptional activity. It seems to be of doubtful propriety to throw a glamor over a highly active crude drug produced in quantities inadequate for general use and over a test which is inadequately described.

Effects on the Mammalian Heart

The frog is discredited in some circles as being too far removed in standing from the human—the ultimate test tube—but as a matter of fact, in the words of Cushny, "The effects of digitalis on the mammalian heart resemble in general those observed in the frogs."

One marked difference between the two classes is that digitalis causes a characteristic stoppage of the frog's heart in systole peculiar to this drug and its congeners, and by which it may be readily identified, while in man, due to poisons in the mammalian heart, probably self-formed and not directly derived from the digitalis, such a characteristic effect is absent.

This is the valuable feature of the One-Hour and of the M.L.D. frog methods which distinguishes them from the M.L.D. on pigs, cats, dogs, and goldfish. One can be practically assured by the position of the heart in systole at death that death was due to digitalis and to no other toxic substance, an assurance which is absent in the other methods.

In the cat method as described by Hatcher, digitalis or its equivalent is injected intravenously under specified conditions to cause death in less than 90 minutes, death alone being the end-point. In this there are two features open to question, first, whether the cat dies from the effect of digitalis, second, whether another cat would die with the same dose.

As to the first we know that death is not due directly to the digitalis on the heart. In fact, the cat probably died from respiratory paralysis introducing another factor entirely.

As to the second point, it may be said without fear of successful contradiction that the Hatcher method, even with certain modifications designed to eliminate its defects, does not give results remarkable for accuracy. As to the quantitative accuracy of this method, Hatcher noted that in some cases cats required a dose 50 per cent larger than the average M.L.D. (Am. Journ. Pharmacy, 1910, p. 360.)

Robinson and Wilson (J. Pharm. Exp. Therap. 10, p. 491) found in a series of ten cats that the M.L.D. ranged from 70 to 210 per cent of the average M.L.D.

Eckler (Am Journ. Pharm., Oct. 1911) found a variation of over 100 per cent in the M.L.D. for cats.

Best Method of Assay

In order to set at rest the vexed question as to which is the best method for the assay of the digitalis series, the Hygienic Laboratory in Washington called to their assistance Dr. Edmunds, Professor of Pharmacology and Secretary of the College of Medicine of the University of Michigan, and Dr. Worth Hale, now Assistant Dean of the College of Medicine of Harvard University.

The results and conclusions of their research published in Bulletin 48 of the Hyg. Lab., show that between the two frog methods there is little to choose. "Between these two methods it is largely a question of personal preference and convenience." With regard to the Cat Method and similar methods in which mammals are used, they say: "We think that methods which employ as a standard the M.L.D. obtained on the higher animals (as distinguished from frogs) are not applicable to the physiological assay of the digitalis series."

The ideal method of standardization is that by which one would compare the unknown with a like sample of known strength on an anesthetized dog, noting not the quantity necessary to kill, but that which will affect the circulatory system in the same way and to the same extent as a certain selected dose of the standard. The unworkable feature of this, however, is that due to the long continued effect of digitalis, the heart never returns to normal after a dose which is sufficiently large to give a characteristic and measurable effect.

Comparison of Standards Impossible

Comparison with standard is, therefore, impossible: neither on the same nor a different dog can one compare sample and standard. Without this feature, it is not standardization, but merely a qualitative test,—admirable for that purpose but inadequate for quantitative measurement.

It might be suggested that a combination of the two would approach the ideal. This apparently is Newcomb's modification—to use a cat and by intravenous injection obtain the M.L.D., while at the same time, by means of a kymograph, obtain a record of the action on the heart.

Not having any details of his method, I do not propose to set up a supposition method to criticise. But putting two and two together, it seems probable that some such procedure is made use of, since Newcomb does not use Hatcher's method unmodified and has made frequent reference to the action of digitalis on the bundle of His. If this is actually the peculiar feature of Newcomb's method, it is still an M.L.D. method or it is no quantitative method. No one can compare two consecutive injections of digitalis on the same animal: no one can compare quantitatively the action of digitalis on two animals, for only by coincidence will two animals respond exactly the same to the same dose.

Condition known as "Heart Block"

If the standardization is made by the M.L.D. with the action on the heart observed for the sake of identifying the drug as digitalis, the method is exactly in line with either the U. S. P. systolic method or the M.L.D. frog method, in both of which the identification as digitalis is unmistakable. The action of digitalis on the heart is similar to that resulting from a severance or compression of the bundle of His—the auriculo-ventricular bundle. This is a sheaf of muscles which, in a way, propagates the sequence of the heart beat from the auricle to the ventricle. When this muscle is fatigued from over-stimulation, as by a lethal dose of digitalis, it ceases to function and the ventricles do not beat in unison with the auricles but develop a spontaneous rhythm of their own. It is known as heart block.

Cushny says, "This is apparently due to the inhibitory action which blocks the passage of impulses from the auricles to the ventricles."

The result is that from the increased irritability of the heart muscle, the rhythm of the ventricular beat is increased until it finally passes into a continued contraction or systole. This is not necessarily death, for a frog usually recovers from the M.S.D. This typical phase of digitalis poisoning in the frog is not completely duplicated in mammals, the mammalian heart not being capable of a continued systole.

An anesthetized cat or dog would, therefore, naturally show the various stages of arhythmia peculiar to digitalis in lethal or toxic doses, if connected with a myocardiograph—an admirable qualitative test, the quantitative value being deduced from the death of the animal with the M.L.D. or in Hatcher's nomenclature, the Cat unit.

This accomplishes the same thing as the frog M.S.D. or M.L.D. method and nothing more. It determines the M.L.D. with the added feature that the typical digitalis action and not merely the death of the animal is observed.

In the mammal, the interrupted sequence of the beats shows itself by there being no coordination between auricular and ventricular beats and by the increased frequency and force of the latter leading to a final stoppage but not in systole.

In the frog, the same picture presents itself, but more sharply defined since systolic stoppage is all but universal and typical.

Why a Different Menstruum?

When an investigator proceeds to extract digitalis, the question of proper menstruum is secondary only to the quality of the drug. Another mystery. Why does the U. S. P choose a different menstruum for digitalis at each revision?

The solubility of the active agents of drugs is greatly influenced by their associates and this is probably peculiarly true of digitalis. The active agents of digitalis purified and unmixed are apparently insoluble in water or practically so. If water is the solvent as in the infusion, or if strong alcohol, the content of active substances extracted is not greatly different although the effects may differ for reasons other than the quantitative activity. The choice of menstruum would, therefore, apparently be governed solely by the character of extract desired. This, however, is only partly true. The U. S. P. 1900 selected 50 per cent alcohol, as the menstruum for digitalis, and this was conclusively proved to be objectionable both because it usually failed completely to exhaust the drug and because the alcohol in the final fluid extract was usually too dilute for proper preservation.

The solvent selected by the International Council, 70 per cent alcohol, is almost ideal, although a higher percentage has some advantages. Eighty per cent alcohol is as efficient a solvent for the active agents, while at the same time it extracts less of the inert ingredients and favors stability.

An aqueous solution of the partly purified active agents has obvious advantage in therapeutics since it adapts itself to any form of administration, particularly that of intravenous. The intravenous route is the choice one for the digitalis series, especially when quick action is desired and the so-called cumulative effects are to be avoided. Alcohol is, of course, contraindicated by this route which thus eliminates the official extracts, and opens the way for specialties for which in spite of certain objections there is a wide and growing field.

Glucoside Susceptible to Enzyme Action

On account of the character of a glucoside it is peculiarly susceptible to the action of enzymes. The great disproportion between the toxicity of strophanthus to frogs and the oral dose for the human was readily explained when it was found that this drug is 125 times as toxic intravenously administered as when given orally. Under the same conditions digitalis is about 40 times as effective.

One of the first specialties proposed—the fat-free tincture—is now official, and while it was based on what, to my mind, is a misconception, it is unquestionably an improvement over the ordinary tincture The nausea of digitalis therapy was wrongly attributed to the fats. This I proved, when England first proposed the improvement, by feeding to a dog 15 times the amount of digitalis which would have killed the animal, with no evidence of nausea. It is easily demonstrated, too, that cats to which the digitalis is administered intravenously without anesthetic, are nauseated as promptly as when fed the drug, showing that the nausea is a reflex through the central nervous system.

The improvement is in the greater stability of the product which has been found to retain its activity more uniformly than the other galenicals.

The most stable form seems to be the crude drug when kept under reasonably good conditions. About a year ago I examined a specimen of digitalis leaves 20 years old and found it to have higher value than the present U. S. P. standard.

Still more recently I examined a tincture 20 years old and found it to contain 70 per cent of standard activity.

Stability of Preparations a Vexed Question

From this one may infer that the stability of digitalis preparations is a vexed question with no immediate evidence of a way out. Possibly there is: for just as fat-free tincture seems inadvertently to be a step in the right direction, so some experiments of mine have led me to believe that there are brighter prospects ahead.

This brings to mind the recent publication of Hatcher's preliminary experiments which, in spite of the haphazard nature of the work and its presentation, have certain valuable features. He admitted, to his credit be it said, that on one occasion, instead of obtaining quantitative yields, he lost 90 per cent of the activity.

Here again a question arises. Why does not Hatcher follow Kiliani and not scheme out new ways and new products, but prepare Digitalinum Vernum? I think the answer is that Kiliani is only partly right and that there is room for further investigation even if Kiliani does appear to have said the last word.

I have never attempted to follow up Hatcher's experiments for I think I have gone farther than that: I have prepared from digitalis leaves, two products of almost equal activity, each as powerful a heart tonic as digitoxin, both almost insoluble in water. One is soluble in chloroform, the other insoluble. This seems to be the only marked distinction between them.

I cannot go into details, for I have not yet worked out a satisfactory method for manufacturing the pure principles, but the final working out should not be long delayed. Then, if successful, we can add another to the list of constituents of digitalis or else verify past experiments. With the number of investigators prying into the mysteries of digitalis it will be strange indeed if they are not soon unveiled.

While Hatcher's work has not strongly appealed to me as exactly the right road, no road bears the official label, and without doubt all such work is helpful in solving the problem.

BUREAU TO TEST MEDICINE ADS

To determine the reliability of package medicine advertising and inform publishers as to its truthfulness and propriety is the object of an advertising bureau established recently by the Proprietary Association in its general offices, 608 South Dearborn street, Chicago.

In this way the Proprietary Association, whose members manufacture about 80 per cent of the output of package medicines in the United States, hopes to render a definite, constructive service to the publisher and the advertiser alike. The service is offered without fee or charge to either publisher or advertiser, and the service to the latter in no way depends upon membership in the association, or application therefor.

E. F. Kemp, general representative of the Proprietary Association, says:

"The advertising bureau expects to report facts in much the same manner as information is reported by commercial and other agencies for reporting facts upon which a subscriber may base his judgment or fix his policy. The bureau does not expect to offer any advice or suggestion to the publisher,—but merely to ascertain facts and report them promptly. After that it is up to the publisher. The work of the bureau has no reference to the financial standing of the advertiser but only to the propriety of his copy and product."

THE QUESTION BOX

The "How to Do It" Department

CONDUCTED BY PHARMACEUTICAL EXPERTS

For the benefit of ERA Subscribers

Oil of Herodium

(Subscriber)—So far we have been unable to secure any information concerning an oil under the above name. No one in the trade seems to have ever heard of such a term, nor do we find it mentioned in any of the reference works at our command, and we have gone pretty thoroughly over the literature of oils, fixed and essential, such as trade catalogues, botanical and technical synonyms, etc. It has been suggested to us, however, that the name may have been used by one not familiar with oil nomenclature, as a designation for "oil of rhodium," or rosewood oil (*Oleum ligni rhodii*), an oil obtained by distillation from the root and lower trunk of *Convolvulus scopiarius* and *C. floridas L.*, two plants indigenous to the Canaries. The oil has a pale yellow color becoming brown by age, and a pleasant odor resembling in a slight degree that of the rose. It is sometimes used in cheap perfumery as a substitute for oil of rose, and also as an ingredient in "bait" to lure fish and animals, as attracting horses, etc. According to "Pharmaceutical Formulas," an English work, factitious oils are not infrequently sold under the name of "oil of rhodium," a common formula being the following; Copaiba balsam, 1 ounce; almond oil, 1 ounce; otto of rose, 20 minims, the mixture being sold under the name of "entice." Whether this suggestion will answer your purpose we are unable to say.

Remedy for Alopecia

(J. C. C.)—"Will you please give me your opinion on the following prescription:

Resorcin	2½ drams
Salicylic acid	2½ drams
Rectified spirit	q.s.
Glycerin	4 drams
Rose water, enough to make	6 ounces

Mix. Apply locally once or twice a week.

"I think the mixture is used for alopecia."

We do not feel competent to hazard an opinion on the probable therapeutic value of the mixture above prescribed, for such an effort manifestly belongs to the medical practitioner. As you must know, medical authorities recognize different kinds of alopecia, and also, different stages of the different forms of the disease, so theoretically at least, the particular treatment to be prescribed in a given case depends entirely upon the diagnosis and the views of the prescriber.

However, physicians sometimes prescribe the substances named in the above prescription for the treatment of that form of the disease known as "premature alopecia," the solution or mixture containing the remedial substances being applied locally two or three times a week, or as frequently as the prescriber may direct. Before applying, the patient is directed to thoroughly cleanse the head and hair of epithelial and sebaceous debris by washing with tincture of green soap and water, or by shampooing with tar soap. Medical authorities also state that in those cases where the disease depends upon a systematic cause, internal administration of such tonics as iron, strychnine, cod liver oil, etc., is desirable. These authorities are also of the opinion that in congenital or senile alopecia any kind of treatment is of little or no avail.

Cross Indexing Prescriptions

(C. S. L.)—While various suggestions have been made at different times and by different individuals for cross indexing prescriptions which have been numerically filed, there is probably no single system of indexing that is free from one criticism or another. One of the best methods we have seen described, and one which is likely to answer most purposes, is that of a card index of the entire prescription file, using a single index card for each prescription and entering upon the card the name of the patient, the name of the prescriber, the date, the prescription number, and the amount charged, as all of these facts have a bearing upon locating the prescription in the file. When such a record has been made, the prescription is returned to its numerical place in the file, and the index card is then filed alphabetically under the patient's name in another file. In cases where the file number of a prescription becomes lost, the person seeking a refill can almost always furnish the name of the patient for whom the prescription was written, as also, the approximate date upon which it was first filed. Knowing the patient's name, the prescriptionist turns to his card index where he finds the name and with it the reference to the file number by which he locates the prescription. When the name of the prescriber and the approximate date of the prescription are not known, the problem is more serious, though usually the prescription may be located by examining the prescription file, it being presumed that all prescriptions have been dated and filed in the chronological order in which they were compounded. For most purposes the patient's name index will be found sufficient to locate the prescription even if the file number has been lost.

A method in practical operation and described in the ERA some time ago by Addison Dimmitt, of Louisville, Ky., is as follows; When the prescription is received for compounding, a prescription department form is attached to it; this form carries blank spaces for all possible information relative to the prescription, as the name of the person the prescription is for, address, date, time received, time promised to be finished, spaces for a check if the prescription is to be called for, waiting, to be sent, price, C.O.D., charged, original back, copy of ℞ wanted, prescription filled by, prescription checked by, serial number of prescription, customer's claim check, if refill, time finished, etc. When the prescription is delivered, the department record is filed under the patient's name at the close of each day's business. Beside furnishing the means of locating the prescription under the patient's name, the records can be assembled at the close of each day, and from them the pharmacist can estimate the number of new prescriptions he has filled, the number of refills, the price charged; in short, Mr. Dimmitt states, he can keep a record by the month or year of the total number of prescriptions filled and the average price, these data furnishing him a basis on which to ascertain the amount of business done in his prescription department.

Vanishing Cream

(B. T. C.)—The term "vanishing," as applied to a toilet cream, is generally held to indicate a preparation of the so-called "cream" type that is rapidly absorbed when the preparation is rubbed into the skin. Two formulas of this character were printed in the Era of June, 1919, page 147, which see. Here are two others:

(1)

Casein, 210 grains; solution of potassa, 5 minims; glycerin, 1½ fl. drams; soft paraffin, 360 grains; carbolic acid, 7½ minims; zinc oxide, 7½ grains; camphor water, to 4 ounces. The author states that this formula produces a fine preparation, but prolonged trituration, secundum artem, is necessary. The formula may be modified as to perfume.

(2)

Stearic acid, highest purity, 19 ounces; glycerin, 34 ounces; distilled water, 56 fl. ounces; stronger water of ammonia, 10 fl. ounces; cologne spirit, 4 fl. ounces; oil of hyacinth, 2 drops; artificial jasmine oil, 1 fl. dram; artificial musk, crystal, 5 grains; terpineol, 4 fl. drams. Melt the stearic acid on a water bath at a temperature of between 160 and 175° F. Heat 8 ounces of the glycerin with 48 fl. ounces of water to the same temperature and add the ammonia to this. Then pour this slowly into the melted stearic acid, with constant stirring. Mix the rest of the glycerin and water and heat to 175° F. Pour this into the first mixture with constant stirring and maintain the temperature, agitating for about 15 minutes. Remove from the heat, and beat well until cold. Mix the perfuming material with the spirit, and add this slowly, while beating the cream.

Medicated Soaps

(T. D. F.)—For full information on the manufacture of soaps you should secure a copy of one of the manuals pertaining to the art of soap manufacturing in general. However, most of the so-called "medicated" soaps are prepared by first making a basic soap and then incorporating the medicament afterward. The Era Formulary gives a number of formulas of this character. Here is a typical formula taken from that work;

Mutton suet	593 parts
Olive oil	74 parts
Caustic soda	222 parts
Caustic potash	111 parts

Mix and make a soap.

To make a medicinal antiseptic soap, take of the above—

Basic soap, a convenient quantity;

Oil of wintergreen	2 per cent
Oil of pine needles	2 per cent
Terebene	2 per cent
Thymol	2 per cent
Sulphur	10 per cent
Tar	10 per cent

Any one, or combinations of two or more, of these medicinal agents, may be incorporated with the basic soap before it is run into molds. Terebene and thymol, when used, are preferably dissolved in a small quantity of alcohol before attempting to incorporate them.

Carbolic Soap—Cocoanut oil, 20 pounds; tallow, 4 pounds; soda lye, 38 to 40° B, 12 pounds; phenol, 1 pound. Prepare the soap by stirring the liquefied fat into the lye at 113° F., and when combination has been effected, incorporate the phenol, and quickly pour into molds. Cover the latter well. Instead of the phenol, 2 pounds of sulphur may be used, and a sulphur soap made.

Liquid Tar Soap—Mix 200 grams of tar with 400 grams of oleic acid, warm the mixture slightly, and filter. Then warm the filtrate on a water bath and neutralize the acid by adding an alcoholic solution of potassium hydroxide. Next add 100 grams of alcohol, a small amount of olive oil, and bring the weight of the finished product up to 1000 grams by the addition of glycerin.

As a general proposition, the manufacture of fine looking cakes of soap requires the use of suitable machinery and equipment, and considerable technical experience.

Oil of Black Birch

(P. P. Mc.)—"Please give me some general information about the oil of black birch and its uses?"

Oil of black birch, also known as oil of sweet birch, oil of betula, etc., is recognized in the Pharmacopoeia under the title "methyl salicylate," which title also covers "oil of wintergreen" distilled from the leaves of *Gaultheria procumbens*, and "methyl salicylate" prepared synthetically, the three substances being identical in chemical composition and therapeutic properties. In each instance, however, the Pharmacopoeia requires that the label shall state the origin of the product so designated under the official title.

According to Gildemeister and Hoffmann ("The Volatile Oils"), the chemical identity of the oils from birch bark and gaultheria was demonstrated by William Procter, Jr., of Philadelphia, in 1843. As the demand for wintergreen oil increased and since wintergreen leaves were not as readily collected, sweet birch bark was distilled indiscriminately with wintergreen leaves or distilled alone as a substitute, so that the commercial natural oil is at present obtained almost exclusively from the bark of *Betula lenta*. The same authors call attention to a report made by the late George W. Kennedy on the wintergreen oil industry (1882) in which it was stated that the cost of collection of birch bark was but one-seventh of that of wintergreen leaves; while the yield of oil from the bark was about 0.25 per cent, whereas that from wintergreen was 0.80 per cent. According to these figures, the cost of production of the oil from birch bark is but half as great as that of wintergreen leaves.

The relative commercial values of the three products covered by the pharmacopoeial title are indicated by the following recent original package quotations: Oil of wintergreen (sweet or black birch), $6@$6.25; oil of wintergreen (genuine gaultheria) $10@$10.50; oil of wintergreen (synthetic methyl salicylate), 80c@85c, per pound respectively. All of these varieties are supposed to answer the U.S.P. tests.

In medicine these oils are considerably employed both internally and externally in the treatment of rheumatism, and for flavoring purposes, especially in the manufacture of tooth powders, liquid dentifrices, chewing gum, etc. Owing to the primitive methods of distillation, it is said, crude wintergreen oil is commonly colored red, but loses its color upon rectification. The oil when properly prepared, is colorless or nearly colorless.

The Progress of Pharmacy

Pharmacopoeial Definition of Triticum—

In a paper read before the New York Branch of the A.Ph.A. in February, Dr. H. H. Rusby presented suggestions and comments on the nomenclature and standards of official drugs. In this paper he said that when the definition of triticum was so changed as to include roots as well as the rhizome portion, he foresaw difficulties which would arise. He said that no careful manufacturer or pharmacist would make use of the root portions of this drug, even though permitted to do so by the Pharmacopoeia, and as a result, all triticum continues to arrive with the root portion removed. Then the fact that the Pharmacopoeia permits the roots to be included leads to mixing of the roots rejected from one lot with some other lot. The quality of the drug is thus degraded because the nodes with their roots possess very little activity. He reported having seen a shipment of this drug imported which consisted almost wholly of the nodes and roots, just enough of the rhizome being present to justify the technical classification "rhizome and roots," so that the shipment was admitted by the authorities, with the result that practically inert preparations were placed upon the market.

Aromatic Elixir—

John K. Thum presented the following revised formula for the preparation of aromatic elixir at a recent meeting of the Philadelphia Branch of the A.Ph.A.; Compound spirit of orange, 10 mils; alcohol, 110 mils; syrup, 375 mils; purified talc, 25 grams; distilled water, a sufficient quantity to make 1,000 mils. Add the alcohol to the compound spirit of orange, then to this mixture slowly add the syrup in several portions, shaking well after each addition, and then add enough distilled water to make 1,000 mils. Lastly add the purified talc and agitate frequently during twenty-four hours, at the end of which time filter through a wetted filter, returning the first portions of the filtrate until it passes through clear. As the Pharmacopoeia calls for 238 mils of alcohol, to say nothing of requiring that the filter be washed with a mixture of one volume of alcohol and three of water, it is easily seen that in the manufacture of appreciable quantities there is quite a saving of alcohol in using this revised formula.

New Color Reactions of Quinine—

D. Ganassini describes the following new color reactions of quinine: (1) Addition to a solution of quinine or a quinine salt of freshly prepared chlorine water in slight excess, then some drops of pyridine develops a yellow color, becoming rose, and finally purple red. The coloring substance is scarcely soluble in chloroform. Quinidine and euquinidine give the reaction very feebly; cinchonine and cinchonidine do not give it. (2) If in the thalleioquin test the green color is produced by addition of bromine water and ammonia, addition of one or two drops of 0.1 per cent just prepared potassium ferricyanide solution turns the green color red. Chloroform extracts the coloring substance. The minimal amount of ammonia must be used—(*Arch. ital. biol.* through *Chem. Abstracts*).

Austrian Grown Hydrastis Canadensis—

According to Wasicky and Joachimowitz (*Pharm. Ztg.*), *Hydrastis Canadensis* has been successfully cultivated at Kornenburg near Vienna, an analysis of the various parts of the plant showing the following results; Root, 1.9 per cent hydrastine, 2 per cent berberine; rhizomes, 3.77 per cent hydrastine, 3 per cent berberine; leaves, 0.77 per cent hydrastine, 0.55 per cent berberine; leaf stalks, 1.12 per cent hydrastine, 1.18 per cent berberine. From these results the conclusion is drawn that when the rhizomes are harvested the aerial parts should not be thrown away. The U. S. P. requires that the dried rhizome and roots without the presence of more than 2 per cent of the stems, leaves and other foreign matter shall yield when assayed by the official process, not less than 2.5 per cent of ether-soluble alkaloids.

Opium Assay from the International Standpoint—

In a paper read before the Edinburgh Chemists' Assistants' and Apprentices' Association, D. B. Dott said that as a result of an International Conference, there is a general agreement that corresponding preparations of the more potent drugs should be standardized so as to be of the same strength in the various pharmacopoeias, and considerable progress had been made in this direction of unification. No such harmony exists with regard to assay methods, however, as is shown by the various methods adopted in the foreign pharmacopoeias of opium assay. In arguing for the adoption of a standard International method of assay, he said the B.P. method for the assay of opium possesses one unique feature in the correction for loss in filtrate which is unquestionably sound and ought to be adopted by the others. In estimating the morphine, according to some of the authorities, the morphine is dried and weighed, but the British and several others order titration with standard acid, which is unquestionably the better plan. When a substance is dried at a definite temperature and weighed under prescribed conditions, there can be no dispute about the weight; while in titration depending on a color change there is always some element of the personal equation. When, however, the liability of impurities to precipitate along with the morphine (especially in the case of an adulterated opium) is considered, titration with acid can easily prove to be advantageous. When morphine is dried as hydrate it should be dried at 60 to 70°. If it is weighed as anhydrous it should be dried at 110 to 120°. Dott concludes that although the difference between 1 and 0.94 is not very great, it is evident that the International standard should apply definitely either to the hydrated or the anhydrous alkaloid—(*Br. and Col. Dr.*).

Rapid Method of Estimating Water in Crude Camphor—

Lane and Lubatti have devised the following method for the rapid estimation of water in crude camphor. Five grams of the crude sample are placed in a centrifuge tube having a barrel of 25 mm. and a narrow tube of 4 mm. internal diameter, the latter being sealed at the lower end and graduated. In shape it resembles the central portion of a pipette. Resting on the coned junction between the narrow and wider tubes is a small 60° funnel-support of nickel wire gauze, on which, before the introduction of the camphor, is placed a piece of cotton wool sufficiently large to act as a filter. Thirty cc. of benzene, which has been saturated with water at laboratory temperature and centrifuged in a suitable vessel before separating the water in a separating funnel, is introduced into the tube, which is then placed in a suitably shaped wooden holder and introduced, balanced by a second similarly treated tube, into a centrifugal machine. After running the centrifuge for a couple of minutes, the water in the sample is found in the narrow tube, the insoluble impurities being retained by the cotton wool. The narrow tube, which is calibrated by running in small volumes of water from a burette with a fine point and etching with hydrofluoric acid, gives the percentage of water direct. Any particles of water which may have been retained mechanically by the wool or walls of the tube are disturbed by carefully stirring with a glass rod, the tube is re-centrifuged, and a second reading taken. When stirring gives no further increase in the volume of the water in the narrow tube the separation is considered complete. In the case of unusually pure samples, the gauze filter may be dispensed with—(*J. Soc. Chem. Ind.*).

New Method of Estimating Methyl Alcohol—

Schryver and Wood propose a new method of estimating the amount of methyl alcohol occurring in plants which is based on the oxidation of methyl alcohol to formaldehyde by ammonium persulphate, using concentrations of the latter varying from 0.1 to 5 per cent, heating the mixture for ten minutes on the water bath, and then applying the phenyl hydrazin test for the presence of formaldehyde, the amount present being estimated by the colormetric method by comparing with a scale of colors. This method is extremely delicate, and permits the detection of 0.5 milligram of methyl alcohol in 100 cc. It may also be employed for the estimation of methyl alcohol in acetone, but for estimating methyl alcohol in ethyl alcohol it is necessary to use an excess of ammonium persulphate—(*Ch. & Dr.*).

Prosol from Russian Millet—

Professors B. A. Dunbar and E. R. Binnewies, of the chemistry department of South Dakota State College, announce the discovery of an alcohol-ketone by-product in the grain of the proso (Russian) millet, which so far as they have been able to ascertain, has never been discussed in the literature pertaining to plant products. Pending further examination, the alcohol has been named "prosol." It is insoluble in water, and the tentative molecular formula assigned to the product is $C_{24}H_{38}O_{2}$. The grain upon which the study was based was raised upon the State college farms from specially selected white seed derived by selection from mother seed obtained in Russia, the examination of the grain being undertaken with a view of ascertaining its adaptability as a breadstuff and its possibilities as a food crop for the western section of the State—(*J. Amer. Chem. Soc.*).

Theoretical Alcohol Yield—

Magne states that the products of the fermentation of pure sugars are not only alcohol and carbon dioxide, but glycerin, succinic acid, etc., and for this reason the "theoretical" yield is less (7.31 gallons absolute alcohol per 100 pounds of sugar) than the "ideal" yield (7.72 gallons). From can molasses no more than 95 per cent of the theoretical yield can be obtained even under the most favorable conditions, on account of salts and organic non-sugars present. Molasses fermentation with the yeast naturally present gives 40 to 60 per cent of the theoretical yield; with compressed yeast 50 to 75 per cent; with the aid of antiseptics 70 to 85 per cent; and with pure culture yeast 85 to 95 per cent—(*La. Planter*).

Helium Plant in Texas—

According to newspaper reports, a great helium plant, from which the United States Government hopes to obtain non-inflammable gas in sufficient quantities to supply it to military balloons, is nearing completion at Fort Worth, Texas. Installation of machinery has begun and it is expected that the plant will be in operation by August 1, unless Congress should fail to further support the undertaking. Helium is extracted from natural gas by a secret process. Construction of the plant, the only one of its kind in the world, and at a cost of approximately $5,000,000, was started during the world war, following a series of experiments conducted by Army and Navy experts at Fort Worth and at Petrolia. Tex. Beyond the fact that a non-inflammable, non-explosive gas had been developed the results of the experiments have remained a secret. The helium plant since the start of its construction has been under military guard.

Purification of Turpentine by Alcohol—

One of the newer developments is the utilization of alcohol in the separation and purification of gum turpentine. The present method of heating and making the crude products at the turpentine camps results in rosin of which only a small part is of good color It has been found that the crude gum turpentine is readily soluble in high proof denatured alcohol. It is then possible to remove such foreign matter as particles of wood, twigs, insects, etc., which have been found largely responsible for coloring the finished products. Subsequent distillation of the gum turpentine alcohol solution results in a separation of the alcohol heads containing a small percentage of turpentine, which functions as a denaturant and at the same time produces a product which can be used again as a solvent. The turpentine fraction is clear and marketable as a high grade product, while the rosin residue is colorless and of the highest grade. The loss of solvent at present is approximately 6 per cent and developments indicate that it may become lower. When using this process it is possible to centralize the processing of the gum turpentine and thus reduce operating expense to a minimum. The increase in high grade products, the very small losses involved, and the small cost of operation incurred by this process indicate that it will become of very great importance in the turpentine industry—(*J. Ind. Eng. Chem.*).

Dye from Cibucao Wood—

Cibucao wood from the Philippines contains a red coloring matter which is extracted and used variously by the Chinese as an ink, a stain, dye and paint color. The wood is boiled and the resulting solution by further boiling, concentrated to a syrupy consistence. Whiting is then mixed with it for most purposes, the resulting paste being the preparation used as an ink for the native "chops" or seals employed by them for affixing their signatures to written instruments. As a dye the stain is used for coloring cheap Chinese papers, notably the paper used in the manufacture of firecrackers, ceremonial papers of various sorts, and for the very cheapest sort of Chinese stationery. The whiting concentrate is sometimes used as an adulterant for European red paints, while the color liquor is used at times for mixing with better quality of red dyes for coloring native cloths. The wood, called "soo mook" in Chinese, comes exclusively from Iloilo and vicinity in the Philippines, is cut and cured in short lengths, and sold in Hongkong by the picul (133 1-3 pounds), the present price being about $2.10 local currency.

Specific Gravity of Guaiacol—

Various samples of guaiacol had specific gravities ranging from 1.111 to 1.130 at 15° C., the B.P. standard being 1.16 to 1.20. The value given by the U. S. P. is 1.110-1.114 at 25° C., other authorities giving values ranging from 1.116-1.145. The most correct value is probably 1.143, obtained by Behal and Choay with synthetically prepared guaiacol. Since the commercial product is largely prepared from cresol and will probably contain traces of phenol, which are difficult to remove, a somewhat lower specific gravity than 1.143 should be permissible—(*Pharm. Journ.*).

Odorless Petroleum—

Petroleum products can be deodorized almost completely by adding to every 4 litres of the liquid 100 grams of calcium hypochlorite (chlorinated lime) and shaking thoroughly. The liquid is then poured into a vessel containing quicklime, which absorbs the excess of chlorine from the hypochlorite, allowed to settle and decanted when it is to be used—(*L'Union Pharm.*).

New Books for Pharmacists

INDUSTRIAL CHEMISTRY, a manual for the student and manufacturer Edited by Allen Rogers, in charge of industrial chemistry, Pratt Institute, Brooklyn, N. Y., Major, Chief Industrial Relations Branch, United States Army, in collaboration with numerous other authorities. 3rd edition, thoroughly revised and enlarged. 6½x9½ inches, 1232 pages. New York, D. Van Nostrand Company.

This new edition of Rogers' Industrial Chemistry comes at an opportune time, for we are entering a new era relative to our commercial development where the role to be played by the American chemist will be far-reaching in its effect upon our future prosperity. To furnish such workers with the information they need to further their endeavors in these respective fields, calls for just such a book as this, which has been prepared by a large number of men who are recognized authorities in their respective lines. An examination of this volume is quite sufficient to convince anyone of its scope and usefulness.

The various chapters cover most of the industrial processes which are based upon an application of chemical knowledge, each chapter being devoted in the main to a particular industry. These industries and authors are indicated in the following chapter headings: 1, General processes, Allen Rogers; 2, Water for industrial purposes, H. Stabler and A. A. Chambers; 3, Fuel, J. C. W. Frazer; 4, Sulphuric acid, W. M. Grosvenor; 5, Nitric acid, W. M. Grosvenor; 6, Salt and hydrochloric acid, O. L. Shinn; 7, Elements and compounds, Allen Rogers; 8, Chlorine and allied products, W. F. Doerflinger; 9, Electrochemical industries, W. L. Landis; 10, Lime, cement and plaster, Richard K. Meade; 11, Clay, bricks and pottery, Allen Rogers; 12, Glass, James Gillender; 13, White lead, G. W. Thompson; 14, Zinc oxide, George B. Heckel; 15, Pigments and paint oils, Maximilian Toch; 16, Mixed paints, Henry A. Gardner; 17, The metallurgy of iron and steel, Bradley Stoughton; 18, Fertilizers, A. G. Stilwell; 19, Commercial organic chemicals, Allen Rogers; 20, Illuminating gas, W. H. Fulweiler; 21, Coal tar and its distillation products, F. E. Dodge; 22, The petroleum industry, Thomas T. Gray; 23, The destructive distillation of wood, W. B. Harper; 24, Oils, fats and waxes, Carleton Ellis; 25, Linseed oil, G. W. Thompson; 26, Hydrogenation of oils, Carleton Ellis; 27, Lubricating oils, Augustus H. Gill; 28, soap and soap powder, Lincoln Burrows; 29, Glycerin, A. C. Langmuir; 30, Laundering, W. F. Faragher; 31, Essential oils, synthetic perfumes and flavoring materials, Alois von Isakovics; 32, Turpentine and rosin, Charles H. Herty; 33, Resins, oleo-resins, gum-resins and gums, Allen Rogers; 34, Shellac, A. C. Langmuir; 35, Rubber and allied gums, Frederic Dannerth; 36, Varnish, A. H. Sabin; 37, Sugar, Guilford L. Spencer; 38, Starch, glucose, dextrin and gluten, G. W. Rolfe; 39, Brewing and malting, Robert Wahl; 40, Wine making, L. W. Haas; 41, Distilled liquors, Gustave L. Goob; 42, Textiles, J. Merritt Matthews; 43, Dyestuffs and their application, L. A. Olney; 44, The art of paper making, G. P. Lull; 45, Cellulose industries, Jasper E. Crane; 46, Explosives, O. W. Willcox; 47, Leather, Allen Rogers; 48, Glue and gelatine, Jerome Alexander; 49, Casein, E. L. Tague; 50, Practical applications of colloid chemical principles, Jerome Alexander; 51, Dehydrated, dried and evaporated foods, condensed foods, Clarence V. Ekroth; 52, Baking, Arnold Wahl.

Comparison with the previous edition shows that a thorough revision has been made, while more than two hundred pages have been added to the text and over seventy new illustrations provided. The book is well printed and bound, and the industrial worker whatever his line will look a long time before he finds another volume which will give him so many angles on the application of chemistry to industry.

HYGIENE AND HEALTH SERIES. By Charles P. Emerson, dean and professor of medicine, Indiana University, School of Medicine, and George Herbert Betts, Northwestern University, Evanston, Ill. Book I, Hygiene and Health 188 pages; Book II, Physiology and Hygiene 323 pages. Indianapolis, The Bobbs-Merrill Company.

These books are to be commended as a source of trustworthy elementary and general scientific information relating to hygiene and health, for the manner in which the facts are presented will surely appeal to the average child of grammar school age. More than this, what is said, the children can apply to themselves, for if they are at all inquisitive they will immediately begin to test the conclusions set forth by the authors. Where is the boy or girl who does not wish to know whether they are of normal height and weight for children of their age? Such questions arouse their curiosity and they immediately begin to look for the information and to compare the figures thus obtained with those given as the average for American school children. In stimulating this interest, the children get the habit of looking further into all that contributes to health and righteous living. They learn that sickness brings sorrow, worry and trouble, checks the growth of the young, and wastes time and money. Therefore, to get the most out of life, they must plan to be healthy, and these books bring all of the facts tending toward this end well within the comprehension of every child who is able to read intelligently

In planning to be healthy the youngster must have an understanding of the body's need of food, what and when to eat, why and how food should be kept, the nature of the air, breathing, necessity of cleanliness, clothing, care of the teeth, hair, eyes, etc. A knowledge of certain physiological facts concerning the body in action, the muscles at work or training, the circulation of the blood, guarding against disease, community cooperation and health, protection against common diseases, tuberculosis, what to do in emergencies, etc., is also indispensable, and this information is all set forth in a manner and style which is sure to meet the approval of educators and physiologists. Volume II contains a glossary of the special terms used in hygiene and physiology, but the language employed throughout the books is of a character that almost any child will readily understand.

THE REDISTILLATION OF AQUEOUS DISTILLATES RESULTING FROM THE PRODUCTION OF VOLATILE OILS. By Emerson R. Miller. Pharmaceutical Experiment Station Circular 9, The University of Wisconsin, Madison.

The process of redistillation is, perhaps on the whole, the most convenient and least expensive for recovering the oil from aqueous distillates and has the advantage that oil either in solution or in suspension may be recovered. The chief expense, according to Mr. Miller, is the initial one of providing the necessary apparatus. To ascertain a somewhat definite idea of the amount of oil which may be recovered from aqueous distillates, the distillates from a number of plants were redistilled, the results of which the author summarizes in a table which shows that in some cases very pronounced differences exist between the specific gravities of the original oil and the recovered oil. In one case the oil of *Monarda fistulosa* had a specific gravity of 0.9280, while the oil recovered from the aqueous distillate had the specific gravity of 0.9700. The most soluble constituent of monarda oil which is present in large amount is carvacrol; consequently the oil recovered by redistillation of the aqueous distillate contains a larger percentage of carvacrol than is found in the original oil and for this reason has a higher specific gravity. With wormwood oils it is found that the original oils have a higher density than the corresponding oil obtained from the aqueous distillate. This condition exists, no doubt, because the thujone dissolves in the water to a greater extent proportionately than the other constituents of the oil. The yield of oil from the aqueous distillates was quite variable in the case of wormwood oils, being less than 6 per cent in one case and more than 37 per cent for another sample.

STATE "PURE DRUG" LAWS enacted since the passage of the National Food and Drugs Act June 30th, 1906, with a compilation of Food and Drugs Acts of the various States and also of narcotic laws, prohibition laws, etc., etc., and other laws relating to the drug trade, including acts of all legislatures to December 31, 1919. 8 vo., 594 pages, Compiled by the Proprietary Association and the National Wholesale Druggists Association.

This compilation, printed in February of this year, places before the manufacturer and all others interested in legislation affecting the drug trade, a vast amount of useful information of a character that could not be obtained elsewhere without considerable trouble and expense. As stated above, the compilation covers all acts of all legislatures to December 31 last year, so that the volume is practically up-to-date in the material it supplies. The laws noted embrace practically every point of contact with the trade, such as narcotics, prohibition, pharmacy, weights and measures, advertising, insecticides and fungicides, distribution of samples, stock medicines, and other laws relating to the drug trade.

ON THE IDENTIFICATION OF CITRIC ACID IN THE TOMATO. By R. E. Kremers and J. A. Hall. Reprint from the Journal of Biological Chemistry.

This is a contribution from the Phytochemical Laboratory of Dr. Edward Kremers, University of Wisconsin, Madison, in which the authors show the presence of citric acid in the tomato. This is done by its isolation as the crude calcium salt and the conversion of the crystalline substance obtained from the calcium salt into the triphenyacyl ester of citric acid. The melting point of the ester was found to be 104-5° C.

CHLORETONE WATER. A new preservative of biological specimens. By Oliver Atkins Farwell. Reprint from the Journal of the A.Ph.A.

Chloretone is soluble in water to the extent of from 0.5-0.8 per cent, and a saturated aqueous solution might cost anywhere from $1 to $1.50 a gallon, depending largely on where the chloretone is procured. Farwell's experiments go to show that chloretone is the equal of chloroform in efficiency for the entomological collector, and he strongly recommends the use of an aqueous solution of chloretone as a substitute for alcohol as a preservative of biological specimens, and as a killing and fixing agent.

Volume I, No. 1, of *The Indian and Eastern Druggist*, a new monthly journal of pharmacy published at 49 Watling street, London, England, has made its appearance. According to the Editor's announcement, the *Druggist* is intended primarily and almost exclusively for circulation among Eastern readers who are engaged in the practice of pharmacy or in the business of handling or dealing in drugs, chemicals and kindred products in India, and the Near and Far East generally. That the Orient presents an inviting field for Western trade exploitation seems conclusive, and this view is strikingly confirmed by a perusal of the initial issue, which contains much valuable pharmaceutical and commercial information relating to the drug trade in that part of the world, as well as a liberal supply of advertising patronage from those who are seeking to reach potential buyers in the rich markets of the East.

KEEPING RECORDS OF ALCOHOL

It is the opinion of most Federal prohibition district directors that for the present, at least, reports of medicated alcohol sold must be kept and forwarded to the State director on Form 1421 before the 10th of each month, under the title of alcoholic medicinal preparations unfit for beverage use.

A most feasible method of keeping track of alcohol as required in the monthly reports is suggested by W. Bruce Phillip, secretary of the Alameda County (Cal.) Pharmaceutical Association. It is given herewith for the benefit of all druggists who desire to be protected absolutely from mistakes in record keeping:

Select five containers, either gallons or quarts, depending on your volume of business, fill them with alcohol withdrawn from the container bought from your wholesale druggist; label these containers exactly as the original can or barrel is labeled showing accurately the Lot Number, etc., then label the containers No. 1 Alcoholic medicinal preparations unfit for beverage purposes; No. 2 Alcoholic medicinal preparations fit for beverage use; No. 3 Antiseptic solutions, toilet preparations, and perfumes unfit for beverage use; No. 4 Flavoring extracts, syrups unfit for beverage purposes (culinary uses in hotels, bakeries, etc., is on this Form, but alcohol for this purpose is not allowed to be sold; therefore this space will always be unfilled); No. 5 Tax-paid alcohol consumed in laboratory, manufacturing and technical use.

Under each of these labels, enumerate for your clerks the principal items manufactured or sold in your store that contain alcohol coming under each class. On the side, paste a long strip the length of the bottle; each time the container is filled, place the date on this strip; at the end of each month from the sum of the number of times the container has been filled subtract the remaining fraction that is in the bottle—this will give you the amount of alcohol in wine gallons to fill in your report.

It is important, after finding the quantity, to refill all the bottles the first of each month. In selecting these containers, or in fact any containers regardless of the amount of alcohol placed therein, never use one holding five gallons or over, because all packages containing alcohol that measure five gallons or over, must be stamped regardless of quantity of alcohol they contain.

There is no information that the law prohibiting the sale of liquor to a soldier or sailor has been repealed. We believe it would be a violation of the law to fill a liquor prescription, even if correctly written, for a soldier or a sailor; or to deliver to a soldier or a sailor a prescription for another party.

The authorities at Washington consider the limit of liquor prescriptions to be written by a physician during one year (not 3 months) to be 100, and the amount of alcohol or liquor to be used by a pharmacy holding a permit, to be 100 gallons during a year (not 3 months), although the entire quantity of 100 gallons may be bought by the pharmacy at one time, or during any three months in the year. Physicians prescribing more than 100 liquor prescriptions, or druggists desiring to use more than 100 gallons of liquor during a year should make application to the prohibition officer, stating the necessity for the excess quantity.

Professional & Trade Associations

RECEIVES REMINGTON HONOR MEDAL

Prof. J. U. Lloyd Recipient of Second Award for Eminent Services in Pharmacy at Meeting of New York Branch Held at the Hotel Pennsylvania

Prof. John Uri Lloyd

The presentation of the Remington Honor Medal to Prof. John Uri Lloyd, of Cincinnati, Ohio, at a testimonial dinner given by the members of the New York Branch of the American Pharmaceutical Association at the Hotel Pennsylvania on the evening of April 19, was an event of more than local importance, emphasizing as it did the achievements of one who had spent a lifetime in pharmaceutical research and contributed not a little to the literature of the profession. The award to Professor Lloyd was the second made for eminent services in pharmacy under the terms of the fund established for the purpose, the first having been conferred at the meeting of the A. Ph. A. last year upon Prof. James H. Beal, of Urbana, Ill.

More than one hundred members of the branch and guests were present to witness the ceremony. At the conclusion of the banquet, which had been arranged by a committee consisting of Jeannot Hostmann, Henry C. Lovis, Clarence O. Bigelow, Charles W. Holzhauer and Chairman Hugo Schaefer, Vice-President Dr. William C. Anderson, in the absence of President McCartney, who had been unexpectedly called to Washington, opened the proceedings with an address of greeting to the honored guest, in which he referred to the eminent achievements of Professor Lloyd, and associated his name with those of Sheppard, Rice, Oldberg, Hallberg and Remington, all great men in American Pharmacy.

Dr. Jacob Diner, senior past-president of the branch, who was selected to present the medal, referred to the fact that the event was in the nature of celebrating both a birthday and a jubilee, the first because it was Professor Lloyd's seventy-first birthday, and the second because the event marked the fiftieth anniversary of the guest's membership in the American Pharmaceutical Association. In concluding his address, Dr. Diner paid an eloquent tribute to Professor Lloyd in which he expressed sentiments of appreciation which were roundly applauded by all present.

In receiving the medal, Professor Lloyd thanked the donors for the honor conferred, and in a humorous manner related how he had begun his career as an apprentice in the pharmacy of W. J. M. Gordon, of Cincinnati, at the princely salary of $2 a week, where he learned how to wash bottles and scrub the floor, but never once got the chance to handle a drug. He also related how the death of his only friend, a dog by the name of "Turk," was a decisive factor in his resolve to remain in pharmacy. He also spoke in grateful remembrance of George Eger, another Cincinnati pharmacist, who had given him a real opportunity to acquire a knowledge of pharmacy. He said what he had done since that time to extend that knowledge was known to most of his friends present.

Following the address of Professor Lloyd, a number of letters and telegrams were read from friends and others unable to be present. Vice-President Anderson then called upon Prof. Charles H. LaWall, dean of the Philadelphia College of Pharmacy; George M. Beringer, of Camden, N. J.; Edward A. Sayre, president of the New Jersey Pharmaceutical Association; Eugene H. Eberle, of Philadelphia, and Prof. Charles Baskerville, of the department of chemistry of the College of the City of New York, all of whom made short addresses.

As stated above, Professor Lloyd's accomplishments are familiar to all members of the A. Ph. A., but he is best known to pharmacists as the joint author of King's "American Dispensatory"; author of the "Chemistry of Medicines," a work which has passed through a number of editions; "Drugs and Medicines of North America," "Elixirs," etc. As a writer of fiction he has been widely read, his best-known works being "Etidorpha," "Stringtown on the Pike," "Warwick on the Knobs," "Scroggins," etc. In scientific work he has followed important lines of investigation, priority of his researches in colloidal chemistry being acknowledged by the greatest authorities in this field. He holds active or honorary memberships in many pharmaceutical and scientific organizations, and is a graduate of the Philadelphia College of Pharmacy, which some years ago awarded him the degree of master in pharmacy. He has also received the honorary degree of doctor of philosophy from the University of Ohio. In 1887 he served as president of the American Pharmaceutical Association, at whose annual gatherings he is a most regular attendant.

PHILADELPHIA BRANCH

At the meeting of the Philadelphia Branch of the American Pharmaceutical Association held at the Philadelphia College of Pharmacy on the evening of April 13, the Newcomb plan for increasing membership in State and National pharmaceutical associations was reported on favorably by the committee to which it had been referred, and finally approved by the branch. The report will be submitted to the Council of the parent association through the branch representative.

The president of the branch was instructed to appoint delegates to the coming convention of the A. Ph. A. and to furnish them with proper credentials. The communication from the New York Branch concerning the question of rebates on dues from the parent body was read, the Philadelphia Branch agreeing to instruct its representative on the Council to favor the New York suggestion of receiving $1 per year from each member of the parent body belonging to the district of any local branch. It was stated that this plan would only be possible with an increase in the dues but would eliminate the necessity of local branches collecting dues from all its members. The testimonial dinner to be given to John Uri Lloyd in New York on the evening of the award of the Remington Honor Medal to him was announced, and all of those present who could do so were urged to attend the dinner.

The scientific programme followed with an interesting paper on "Tablet Manfacture" by R. C. White, and a lecture on the "Wasserman Reaction" by Louis Gershenfeld. The contributors to the evening's programme were given a vote of thanks. President Goodhart presided.

CHICAGO BRANCH

About forty-five members and their friends were present at the one hundred and ninth meeting of the Chicago Branch of the American Pharmaceutical Association, held at the City Club on March 26, the subject of the evening being "The Liquor Traffic in Drug Stores." Samuel C. Henry, secretary of the N.A.R.D., started the discussion, stating that it was unfortunate for pharmacy that the section of the Volstead Act providing for the dispensing by druggists of liquors on physicians' prescriptions could not have been eliminated. Mr. Henry said that if the great medical organizations had stood with the great pharmaceutical organizations, when the act was under consideration by Congress, the stigma of the liquor traffic on medicine and pharmacy could have been entirely prevented.

Mr. Henry warned pharmacy not to let the impression get abroad that the drug store had taken the place of the saloon. He maintained that this was not so, and the great majority of pharmacists were either refusing altogether to sell liquor or were limiting their sales to strictly legitimate prescriptions. If the impression becomes firmly fixed in the public mind that liquor can be easily obtained through the physician and pharmacist, it will eventually take more money out of the store than such trade will bring in. He regretted very much that the liquor conditions in Chicago had attracted so much attention in the newspapers. The Chicago druggists were called upon in great haste to combat a strong movement of ex-saloon keepers entering the drug business. Through the efforts of the officers of the C.R.D.A. the Federal prohibition authorities in Chicago immediately placed temporary restrictions upon the quantity of liquor that should be sold in drug stores and are now restricting the number of prescription blanks that will be issued to physicians. This temporary restriction on pharmacists will undoubtedly be rendered more severe within a short time.

Dr. Bernard Fantus, the next speaker, was of the opinion that the medical profession will be big enough to repudiate liquor dollars. He regretted very much that the matter of prescribing liquors could not have been kept from the medical profession. The use of alcohol must be greatly curtailed in medical practice and in pharmacy. Tinctures of the milder drugs should be deleted from the U. S. P. and fluid extracts be used instead. However, drugs of high potency should be used in tincture form rather than in fluid extracts. The flavoring spirits such as lemon, vanilla, anise, peppermint and ginger might well be deleted and a class of preparations introduced, perhaps emulsions, that would be equal in flavoring and carminative value. He also suggested that many alcoholic liquid medicines, especially certain so-called "elegant" elixirs, could well be deleted. It is inhumane to order for patients such a medicine as I.O.&S. in liquid form. It could just as well be given in a form of pills or tablets. Alcohol itself as an external application or "rub" can always be medicated so as to render it unfit for internal use; there are many succedanea superior to it.

Prof. E. H. Wisner, of Valparaiso, Ind., spoke on the "bone dry" law of Indiana, and pointed out that physicians' prescriptions calling for liquor cannot be dispensed in Indiana. Therefore, the Indiana druggists are not troubled with the liquor problem. The sheriff's duties have become so reduced that no one wants the job. His principal business is hunting illegal stills. Billiard halls as "blind pigs" cause more trouble than drug stores.

Mr. Honorof, of Gary, Ind., expressed the opinion that druggists were much better off financially and held a higher place in their community if they did not permit the selling of liquor in their stores.

Sam. L. Antonow, president of the C.R.D.A., deplored the fact that Chicago druggists were unable to maintain their resolve not to take out the Government permits for the dispensing of liquor on physicians' prescriptions. However, the entry of a number of ex-saloon keepers into the drug business in Chicago and the threat of many more, perhaps hundreds, to enter, caused druggists, in great haste, to take out these permits in an endeavor to prevent the destruction of their business by these men, interested only in the sale of liquors. He expressed the opinion that the present regulations in Chicago would soon be made much more restrictive, and that shortly there would be very little prescribing of liquors except for real medicinal use.

I. M. Light, secretary of the C.R.D.A., stated that nearly 1,200 of the 1,300 odd members of the C.R.D.A. had now taken out liquor licenses. He believed that a druggist should be prepared to fill legitimate liquor prescriptions; that doctors are entitled to prescribe for liquors; that whiskey, brandy and other alcoholics are truly medicines and should be recognized in the U.S.P. as such.

F. P. Snyder, of the Owl Drug Co., stated his company, with their long chain of stores, absolutely prohibited the sale of alcoholic liquors and, in his opinion, this was good business policy.

Secretary Gathercoal favored State legislation prohibiting the prescribing of liquors by physicians and the dispensing of such prescriptions by pharmacists. He recognized that the debauch of liquor selling by certain druggists and ex-saloon keepers, posing as druggists which had spread over Chicago within the last few weeks, would not long continue, as the Federal prohibition officers plan to markedly restrict the sales. If the druggists of Chicago induce the prohibition officers to restrict the sales of alcoholics to a very few gallons per month, the ex-saloon keeper will be kept out of the drug business; there will be no stigma as liquor-sellers attached to druggists, and they can come before the public with clean hands in the matter.

BALTIMORE BRANCH

At the regular monthly meeting of the Baltimore Branch held on April 21, which will probably be the last held by the branch until Fall, it was decided not to elect a secretary for the present to succeed the late Dr. Frontis Lentz. President C. C. Neal occupied the chair.

Dr. J. F. Hancock, by request, presented the membership campaign plan advocated by Dr. E. L. Newcomb. The plan and its probable effect upon the A. Ph. A. was very generally discussed and upon motion of J. B. Thomas, the branch went on record as advocating a very serious study of the plan at the coming meeting of the A. Ph. A.

E. F. Kelly, council representative, then briefly outlined for the benefit of the members the several important questions recently considered by the Executive Committee of the Council, which it is hoped will be finally acted upon at the coming annual meeting of the A. Ph. A.

Dr. Hermann Engelhardt, member of the N. F. Revision Committee, discussed the plans for the coming revision of the National Formulary.

HOTEL ARRANGEMENTS FOR THE A.Ph.A.

Members Urged to Make Early Reservations—Headquarters to Be at the New Willard, Washington, and Sessions to Begin May 5

Dr. L. F. Kebler, chairman of the Publicity Committee of the Washington Branch of the A.Ph.A., having in charge arrangements for the coming meeting of the American Pharmaceutical Association to be held in Washington, D. C., on May 5-10 inclusive, has recently sent out a circular letter in which he urges all who expect to attend the meeting to make their hotel reservations early, on account of the extremely crowded condition of Washington in May. Hotel accommodations, European plan, are offered by the day for single or double rooms without bath at rates ranging from $2 to $4, and single or double rooms with bath at $3 to $10 at the following hotels: Capitol Park, Continental, Harrington, LaFayette, Metropolitan, New Ebbitt, New Willard, National, Raleigh, Shoreham, St. James, Wardman Park, and Washington. Double rooms with twin beds are somewhat higher than the above rates, while connecting single rooms with bath may be secured at a better figure at some of the hotels. With the exception of Capitol Park, the Continental and Wardman Park, all of the hotels named are within easy walking distance of headquarters, the New Willard, Pennsylvania avenue and Fourteenth street, N.W.

Visiting pharmacists are advised that someone properly badged will be at the railway station in Washington to meet them, and if such visitors on arrival should be overlooked, they should apply at the Traveler's Aid Booth in the center of the station. On arrival in Washington all visitors are advised to go directly to headquarters for registration and information.

N.A.R.D. PLANS HISTORIC EXHIBIT

The Committee of Arrangements is planning a unique exhibit of pharmaceutical subjects in conjunction with the annual meeting of the National Association of Retail Druggists to be held in St. Louis on September 20. The collection to be exhibited is the property of the Missouri Historical Society and covers the period from 1735 to the present time. Bottles used on druggists' shelves, when St. Louis was a village, and leather saddle bags carried by practitioners in the days when every doctor was his own apothecary are some of the interesting items. A set of prescriptions belonging to one of the old St. Louis druggists covering a period just before the Civil War, is another interesting feature. The collection will be on exhibition at the Jefferson Memorial in Forest Park.

The program for the convention also includes a drug show at which displays valued at millions of dollars will be made by various firms. It is expected that the attendance will be one of the largest in the history of the N. A. R. D., as subjects of vital importance are to be discussed and considered. Druggists are asked to make their plans early to attend this coming convention.

N. P. S. A. MEETING MAY 8TH

In view of the fact that many of the members of the National Pharmaceutical Service Association will attend the meeting of the American Pharmaceutical Association at Washington, the annual meeting has been called to take place at 2:30 P. M., May 8th, on the steamer which leaves Washington at 2 o'clock for Mount Vernon.

Members having matters to be brought before the annual meeting should communicate with the secretary, E. Fullerton Cook, 145 North Tenth street, Philadelphia, Pa.

F. W. JONES, PRESIDENT OF PERFUMERS

W. B. Colver of Federal Trade Commission Urges Repeal of Excess Profits Tax—Association Favors Increase in Salaries of Customs Inspectors—F. A. Parsons on Artistic Containers

At the closing session of the annual meeting of the Manufacturing Perfumers' Association, held in New York, the following officers were elected: President, Francis W. Jones, of the Melba Company, Chicago; first vice-president, P. E. Page, of the Talcum Puff Co., Brooklyn; Edwin Sefton, of the Harriet Hubbard Co., New York, and secretary-treasurer, C. M. Baker, of the Melba Company. A. M. Spiehler, who has been the president of the association for several years, was elected to the executive board. D. H. McConnell and Howard Goodrich were re-elected to the board.

The applications of the following companies for full membership were referred to the executive board: The Pepsodent Co., Chicago; Louis Philippe, Inc., New York; Luxcomb Co., Chicago; Franco-American Hygienic Co., Chicago, and Birnham & Co., Chicago, The following applied for associate membership: The National Gum & Mica Company, New York; W. W. Jones, New York, and the Perfumers & Jewelers Box Company, New York.

W. B. Colver, member of the Federal Trade Commission, addressed the meeting on "Some Aspects of Modern Business." He told of the method of the commission to eliminate unfair business practices by taking the matters up with the members of the industry itself. The attempts of the commission to do away with all types of commercial bribery by putting a definite bill through Congress were discussed by Mr. Colver, who, in turn, condemned the unfair use of guarantees against price declines, against competitors' prices, and other market factors in attempts to secure business. The numerous complaints regarding price maintenance which have been made to the commission were taken up. He said that there is now a pronounced opposition in Congress to any definite legalized price maintenance policy such as would be created by the Stephens bill in its original form, but if Congress would put through a law in order that the Supreme Court might decide the question once for all and eliminate a hundred or so test cases, a satisfactory termination would probably follow.

"Before I leave I must take a wallop out of my old friend, the Excess Profits Tax. Its usefulness has ceased, and there is no excuse for this tax now that the extenuating circumstances under which it originated no longer exist. It gets $5 and even $6 for every dollar that gets into the Treasury.

A resolution that the association aid the campaign to raise the maximum of Customs Inspectors' salaries from $3,500 up to $4,500 was unanimously accepted.

A strong plea for toilet preparation containers of higher merit from an artistic standpoint was sounded by Frank Alvah Parsons, of the New York School of Fine and Applied Arts. In the course of his remarks, Mr. Parsons criticised the art value of many of the containers now in use by widely advertised lines of toilet articles as reflecting "overdecorating, unwise choice of colors and failure to represent the ideas desired in the clearest and most forceful manner."

Mr. Parsons was followed by S. A. Linnekin, editor of Babson's Statistical Organization, who spoke on the "Trend of Commodity Prices" and whose address is printed elsewhere in this issue.

The twenty-sixth convention of the association came to a close with the annual banquet on Thursday evening at the Hotel Biltmore.

FUTURE OF ALCOHOLIC MEDICINALS

Drug Manufacturers Meet in New York and Discuss Prohibition Regulations—Specially Denatured Alcohol for Manufacture of Pharmaceutical Products Wanted—Officers Elected

One of the important subjects discussed at the ninth annual meeting of the American Drug Manufacturers' Association held at the Hotel Biltmore, New York, during the week of April 12, was the question of alcoholic medicinals. C. M. Woodruff drafted a resolution, which, after some minor changes, was approved by the committee. These resolutions were added to by C. J. Lynn to this effect:

"Resolved, that the American Drug Manufacturers' Association would not be justified in embarrassing the medical profession in lawfully prescribing and administering such preparations by discontinuing their manufacture and compelling physicians and pharmacists to resort to questionable sources of supply. The revised draft contains the following new matter:

"Resolved, that this association recommends to its members and to manufacturing pharmacists generally, that they refuse to manufacture and sell any alcoholic medicinal preparation which has been, or which hereafter may be, designated as fit for beverage use, to the end that the industry may be kept free from all taint in what under the law is defined as 'intoxicating liquors.'"

It is a matter of interest that as a result of the December conference resolutions drawn up by members of the drug interests in some instances went much further in their restrictions upon certain preparations than has been done in the regulations which were subsequently issued by the department. The report further stated:

The Future of Alcoholic Medicinals

"The members of this association are not unprepared for restrictions placed upon the manufacture of medicinal preparations by the operation of prohibition laws. This subject was discussed at the very organization of the association in 1912, and our proceedings show that it has received attention at various subsequent meetings and particularly at that of a year ago. Nevertheless new conditions are confronting us.

"Already the process of elimination of even preparations official in the U. S. P. and N. F. has begun, against the protest of many who are interested in professional pharmacy. It is true that the preparations affected, with several exceptions, may be spared without very serious injury to pharmacy or the public; but it is possible that other official preparations may be added to the list which are classified as intoxicating liquors. Attention should not be wholly centered upon official preparations, but thought should be given to the status of non-official preparations which are being listed by all manufacturers and which have been sold by them without question for so many years that a continuance of this practice is likely to be taken for granted. In the opinion of the committee, this association should take the initiative in carefully scrutinizing the formulae of alcoholic medicinal preparations, now marketed for strictly legitimate purposes, to discover whether any of these may be perverted to improper use. Also it is not sufficient to know that these preparations have not been made, or marketed for such use. The demand from the trade should be given consideration, and orders for unusual quantities under suspicious circumstances should be refused. The whole subject is one of such vital importance, and so far reaching in its effect that in the opinion of the committee it may only be fully developed by open and frank discussion on the part of members.

"The committee wishes to recommend the desirability of some action by the association through the appointment of a committee, or otherwise, to further the approval of a number of formulae for specially denatured alcohol for the manufacture of pharmaceutical products for internal use, as is now permitted in the case of tincture of iodine."

President's Address

President R. C. Stofer in his annual address laid particular stress on the subject of alcoholic medicinals. He said:

"As the result of the enactment of the Eighteenth Amendment and the Volstead Act, the pharmaceutical industry suddenly found itself charged with grave responsibility. Your Legislative Committee, your Executive Committee and your officers have been keenly alive to the importance of the problem confronting us. Our members have, with commendable endeavor, striven not only to obey the letter but the spirit of the law as well. We have participated in conferences; we have assured the Internal Revenue Department and the division having in hand the enforcement of the law of our earnest desire to co-operate with them. To this end your Executive Committee has invited Prohibition Commissioner Kramer to appoint a representative of his department to confer with us upon this occasion.

"Here again constructive co-operative endeavor upon the part of our members has been and will continue to be in evidence. It is appreciated by all parties at interest that too heavy a burden must not be laid upon the masses, as a result of unnecessary restrictive regulations, which would simply add to the sum total of unrest and discontent at present abounding.

"From the expressions received from members, your Executive Committee believes that it is the desire of the rank and file of our membership to refrain from producing or selling any class of medicines which have, by the department, been ruled to be fit for beverage purposes, as it is seemingly the policy of every member that our noble profession should not be degraded by automatically becoming liquor dealers by virtue of the taking out a liquor license or permit for the sale of legitimate, useful, yes, necessary medicines, which should be freely available for their proper and, in the main, urgent necessary use.

"I am very sure that our Executive Committee and the Scientific Section will gladly co-operate with the Technical Division of the Internal Revenue Bureau, having in mind the curbing of abuse and having in mind, if necessary, the modification of any medicinal compound which is frequently or even semi-occasionally prescribed by the medical profession. It should be borne in mind that whatever safeguards the department may place around the sale and distribution of such compounds should by no means be so restrictive as to cause the consumer unnecessary additional cost, because of the materially added expense incidental to the legitimate sale and distribution thereof."

In closing his address, Mr. Stofer said he believed there were no serious up-turns or down-turns for the manufacturers' business in the future, for the products handled have, as a whole, given evidence of more stable prices than have the bulk of other commodities. For this reason, the wholesale or retail trade has little to fear as to shrinking values of stocks of manufacturers' production. He also stated that it was his impression that members of the association turn their capital with less frequency than any other known line. This is largely due to the fact that much of the basic material is seasonal in character, and, therefore, stocks of such must be purchased covering requirements for the year, and sometimes several years.

Officers were re-elected for the coming year as follows:

President, R. C. Stofer, Norwich Pharmacal Co., Norwich, N. Y.; first vice-president, Dr. F. B. Kilmer, Johnson & Johnson, New Brunswick, N. J.; second vice-president, William Ohliger, Frederick Stearns & Co., Detroit, Mich.; third vice-president, Burton T. Bush, Antoine Chiris & Co., New York City; treasurer, Franklin Black, Chas. Pfizer & Co., New York City; secretary, W. J. Woodruff, Penobscot Bldg., Detroit, Mich. The Executive Committee includes the aforenamed officers and W. A. Sailer, Sharp & Dohme, Baltimore, Md.; James E. Bartlett and C. M. Woodruff, both of Parke, Davis & Co., Detroit, Mich.

One hundred and fifty members attended the banquet held at the Hotel Biltmore, Thursday evening, April 15, at which the speakers were Maurice F. Egan, former U. S. Ambassador to Denmark, James M. Beck, widely-known attorney, and President Stofer of the association.

KINGS COUNTY PHARMACEUTICAL SOCIETY

Dr. W. C. Anderson, as chairman of the Legislative Committee, presented an illuminating report to the members of the Kings County Pharmaceutical Society at the Brooklyn College of Pharmacy on Tuesday afternoon, April 13, in which he outlined new regulations and proposed legislation affecting the retail drug trade. By far the most drastic measure and the one that will be most hotly fought by the society is a bill now before the New York State Legislature, known as Assembly Bill 1432, which would permit no registered pharmacist to work more than eight hours a day and forty-eight hours a week.

As the bill now stands both proprietor and clerk are affected alike, providing they are registered pharmacists.

The injustice of the bill was very thoroughly discussed by the members present at the meeting. While they had recently approved of the Burke bill, which limits the working hours of drug clerks to sixty instead of seventy hours a week it was announced that Bill 1432 will be fought to the limit. Many store owners, unable to afford two sets of clerks, and prohibited from being in the store more than eight hours themselves, would be forced out of business, it was asserted

From what could be learned about the new measure it is understood that there are very strong powers behind it and that an effort will be made to have it reported from the committee as soon as possible. In the meantime the various State organizations will be forced to act quickly if they desire to stop its passage.

Another bill providing for so-called health centers for the treatment of those who cannot afford to pay for the treatment they need, to be maintained by the State, was explained. It is not to be confused with the Davenport Health Insurance Bill. Several measures legislating for the manufacture of alcoholic beverages, ranging from 6 to 10 per cent alcoholic content, are also before the State Legislature.

Henry B. Smith informed the meeting that the annual convention of the New York State Pharmaceutical Association will be held the last week in June at Alexandria Bay, the Thousand Islands. The State convention was last held at Alexandria Bay in 1911.

Chairman France of the Supervision Committee reported that the examinations at the Brooklyn College start Monday, April 19, and continue until Wednesday, April 28. He stated that plans are now being made for the commencement exercises.

The society is at present detailing physicians on the following preparations: Elixir Gentianae Glycerinatum, Elixir Potassi Acetatis et Juniperi, Elixir Terpini Hydratis, Elixir Glycerophosph. Co., Mistura Pectoralis, and Syrupus Bromidorum.

DRUG TRADE BOARD ON INFORMATION

Members of the newly organized Drug Trade Board of Public Information are now at work drafting a constitution and by-laws to be brought up for adoption at a meeting to be held in Washington, D. C. on May 10th. The temporary organization was recently formed with C. H. Waterbury, chairman, and Dr. R. P. Fischelis, secretary and treasurer.

The object of the organization is to supply the public press with information regarding the various branches of pharmacy and secure for the profession that "recognition to which it is entitled at the hands of the public and which it is not now receiving." The meeting was the outgrowth of the plan submitted by the committee on Federation of the American Pharmaceutical Association at the meeting of the latter last August. The associations represented and their representatives are as follows:

National Wholesale Druggists' Ass'n, C. H. Waterbury and F. E. Holliday; Mr. Waterbury being the permanent representative. National Ass'n Boards of Pharmacy, Jacob Diner; American Conference Phar. Faculties, Edwin L. Newcomb; Am. Ass'n. Pharmaceutical Chemists, H. Noonan; Proprietary Ass'n. of America, E. F. Kemp; National Ass'n Retail Druggists, Samuel C. Henry; and the American Pharmaceutical Ass'n., Robert P. Fischelis.

ELECTROCHEMICAL SOCIETY MEETS

A feature of the 37th annual meeting of the American Electrochemical Society held in Boston and Cambridge, Mass., on April 8 to 10, was the address of retiring president Dr. Wilder D. Bancroft, of Cornell University, on "Contact Analysis." The address was followed by a symposium on "Colloid Chemistry."

The following officers were elected; President, Walter S. Landis, chief technologist of the American Cyanamid Company, New York; 1st vice-president, Dr. John A. Mathews, president and general manager, Halcomb Steel Co., Syracuse; 2nd vice-president Lewis F. Saunders, vice-president, Norton Company, Worcester, Mass.; 3rd vice-president, Arthur T. Hinckley, chemist of the National Carbon Co., Niagara Falls, N. Y.; treasurer, Pedro G. Salmon, Philadelphia; secretary, Dr. Joseph W. Richards, Lehigh University, Bethlehem, Pa. The membership of the society now numbers 2,307, an increase of several hundred over that of the previous year. The society has in its treasury $13,000 invested, largely in government bonds, and $4,000 cash assets.

The North Carolina Pharmaceutical Association will holds its 41st annual meeting at Asheville on June 22 to 24 inclusive. Local secretary C. A. Raysor, of Asheville, assisted by a committee of local druggists, is in charge of the arrangements for the entertainment of visiting delegates. One feature of the program already provided is a banquet to be given at Grove Park Inn in honor of the association by E. W. Grove, the proprietor, who is also a druggist. The program will also include a reception, automobile drive, dance, theatre party, and a mountain trip. Headquarters for the delegates will be at Battery Park Hotel.

The Alabama Pharmaceutical Association will hold its annual meeting at Mobile on June 16, just following a meeting of the Alabama Board of Pharmacy, which holds an examination at the same place on June 14. T. S. Van Aller, 210 Broad street South, is the local secretary of the State association.

Boards of Pharmacy

PENNSYLVANIA

The Pennsylvania Board of Pharmacy recently announced results of the examinations conducted on March 5 and 6, showing that of 105 applicants there were twenty-five taking examinations for registered pharmacists and eighty for assistants. Fourteen of the former and forty-two of the latter passed. The names of those passing were:

Pharmacists—Hilda B. Altschuler, Maurice Bernblum, Paul W. Irwin. Otto L. Koenig, Jr., Manuel S. Lehrfeld, Louis H. Parks and Joseph Shute, all of Philadelphia.

Joseph V. Capozzi, Pittsburgh; Burton L. Craig, Emsworth; Elwood H. Leh, Catasauqua; Robert G. Myers, Greensburg; Samuel E. Miller, Confluence; William C. Scott, Jenkintown.

Assistant pharmacists—Audrey C. Currie, Frank Fleischer, Max Horvity, A. J. Ingelzi, Herman Schrift and Leo Squitieri, all of Pittsburgh.

Harry H. Babbett, David N. Bayless, Abe M. Bernstein, A. Lee Caldwell, David Champaigne, David L. Dyen, Louis Fox, Frank E. Gerran, Sol. Hanig, Frederick E. Haentze, Max Jaffe, David Jacob, Adolph Lapayowker, Joseph M. Lissy, Jacob Meltz, T. Mowrer. J. Penn McCandless, Jr., Will J. McGarr, Vane H. McVey, Augustus W. Nelson, Stanley W. Rosenfeld, Louis Stark, Ephraim G. Sless and Joseph F. Weiss, all of Philadelphia.

Robert R. Henrie, Bloomsburg; W. F. Heidenreich, Jr., Crafton; David A. Snyder, Harrisburg; David Lebovitz, Homestead; Edgar F. Heffner, Jr., Lock Haven; George W. Paxson, John D. Stoner, Parkesburg; William H. McEwen, Palmyra; Morris Shuman, Reading; Edmund J. Klonowski, Scranton; William J. O'Connor, Troy, and William R. Goehrig, Williamsport.

The next examinations will be held in Philadelphia and Pittsburgh June 4 and 5.

TEXAS

The Texas Board of Pharmacy at its meeting held at the Bender Hotel, Houston, recently, decided to hold special examinations for those who hold permits to practice in towns in the State of less than 1,000 inhabitants at San Antonio on May 18; at Dallas on June 15, the date of the regular meeting of the State Pharmaceutical Association, and also at the meeting of the board to be held at Dallas on Sept. 21. In holding these examinations the board hopes to eliminate the "permit men" from its records and issue to them, if they pass this special examination, a certificate which will permit them to practice pharmacy anywhere within the State, but not granting to them the privilege of reciprocity, as they are not examined in all of the subjects covered in the regular examinations.

Certificates to practice pharmacy were issued to the following applicants who successfully passed the examination held at Houston in January: M. Arrington, Thrall; J. T. Burtis, Oakwood; A. R. Clark, Celeste; J. M. Evans, Jewett; Fred P. Graves, Dallas; E. O. Mayes, Gorman; Ira C. Neeley, Dallas; L. W. Pullen, Prosper; A. D. Sanders, Purdon; C. D. Teasdale, Houston; John C. Ward, Waco; J. V. Bedingfield, Freeport; R. S. Carwill, Marlin; E. W. Cline, Belton; D. R. Franks, Valley Mills; Otto Kusel, Edinburg; N. C. Needham, Jewett; J. M. Oliphant, Shiro; W. D. Robinson, Corsicana; John E. Seibert, Corpus Christi; H. Lee, De Kalb; T. W. Warren, Greenville. The next meeting for examination will be held at San Antonio on May 18.

MASSACHUSETTS

At a recent meeting of the Massachusetts Board of Pharmacy held at the College of Pharmacy, Boston, forty-nine applicants were examined, the following being successful:

Registered pharmacists—Frank E. Berridge, Lynn; John A. Emerson, Milton; William L. Thayer, Boston.

Registered assistants—Sister Lucia Boubon, Lowell; Richard A. Byrne, Brighton; Philip M. Jones, Springfield; Noah Krasnow, Fall River; Edward J. Leahy, Lawrence; Thomas A. Ryan, Brookline; Albert J. Thompson, Somerville; Evelyn B. Maynard, Lowell; Albert H. Wheeler, Cambridge; Ruth G. Davies, Boston.

The headquarters of the board was recently moved from 22 State House to 146 State House.

KANSAS

The Kansas Board of Pharmacy announces the following list of names of the candidates who successfully passed the recent examination of the board held at Wichita: H. R. Haggard, Kansas City; J. Howard Hilton, Cottonwood Falls; F. E. Stelzner, Wamego; Kenneth J. McLaughlin, Lawrence; E. S. Floberg, Miltonvale; Stanly A. Reynolds, Kingman; P. B. Grissom, Kingman; R. F. Smart, Stafford; Geo. Epperson, Augusta; Russel Walters, Hutchinson; Chas. Ahrens, Ft. Scott; Hobart Hammer, Baxter Springs; Archie Johnson, Concordia; Chester Cook, Lucas; Joe L. Adams, Lebanon; Klon Randle, Wichita; Sam G. Cooper, Towanda; Sidney Arbuthnot, Belleville; Bruce Veger, Wellington; Lew A. Litel, Belleville; Chas. A. Hinchee, Minneapolis; Leo. P. Dunn, Wichita; S. A. Widney, Wellington; Harry A. Romine, Wichita; Chas. A. Wilson, Eldorado; H. W. Brown, Yates Center; E. F. Barclay, Sterling.

The next examination will be held at Kansas University, Lawrence, on May 12 and 13.

DISTRICT OF COLUMBIA

The District of Columbia Board of Pharmacy has granted licenses to the following applicants for registration who successfully passed the examinations held on January 8 and 9; Isidore Lattman, George A. Reynolds, Ambrose W. Healy, Harold L. Graser, and Norman E Weeks. The following pharmacists were granted licenses through reciprocity with their respective States; Leslie S. Webster, Edward P. Berlin, William M. Boyd, Norman B. Good, Joseph H. Henderson, Clyde R. Hancock, George E. McDuffie, Lony T. Queen, and Weatherly J. Adamson, Jr.

The board of pharmacy recently organized with the following officers: President. A. C. Taylor; secretary, W. T. Kerfoot, Jr.; treasurer, Charles J. Fuhrmann; the other members of the board are F. T. Hafelfinger and H. W. Kenner.

The North Carolina Board of Pharmacy announces a meeting for the examination of candidates to practice pharmacy will be held at Raleigh on Tuesday June 8. The secretary of the board is F. W. Hancock, Oxford, N. C

Schools and Colleges

FORDHAM UNIVERSITY

The purpose of the annual dance given by Fordham University College of Pharmacy at the Hotel Pennsylvania, New York, on the evening of April 14, was to increase the fund for the research scholarship in pharmacy established by the college at the University, the affair being most successful from every point of view. Much of the credit for the management of the function was due to the work of Dr. Otto F. A. Canis, of the faculty; Dr. Leo Ganbarg, president of the Alumni, and the Arrangements Committee, consisting of Joseph Altman, '19; Joseph Pariser, '19; German Sterman, '19; Julius Kerr, '18; Angelo S. Branca, '19, and Alfred Fruciscus, '15. The patronesses were Mrs. Jacob Diner, Mrs. Gustav Horstman, Mrs. Geo. Hohman, Mrs. James P. Croce, Mrs. Otto F. A. Canis, Mrs. Sigmund Kopald and Mrs. Irving A. Edelstein.

Music was furnished by an orchestra composed mainly of students of the institution, led by Pharmacist-Musician Casson. Their choice of musical numbers was in keeping with the times, and the praises and commendations showered upon them were numerous. Among those present were the members of the faculty, students of the college, and the Alumni, all of whom laid aside business worries for the night, with the determination to make the evening most enjoyable. The old-fashioned dances proved a delightful novelty, and in the numbers for the old timers it was noted that Dr. Jacob Diner, dean of the college, became young again and injected a spirit of care-free happiness in the proceedings that was assimilated by all present.

The success of the fund for a research scholarship in pharmacy is assured, and the college gratefully acknowledges the generous contributions of individuals and firms who appreciate the value of such a scholarship and are helping to maintain it through their liberality.

TO GROW DRUGS AT OREGON A. C.

An experimental garden for the growing of drugs may be established at the Oregon Agricultural College in the near future. A recommendation to this effect has been made by Dean Adolph Ziefle of the school of pharmacy of the agricultural college, which is located at Corvallis in the heart of the Willamette Valley and is regarded as a favorable situation for such an experiment.

According to Dean Ziefle, drug growing is a field that needs development in Oregon. He believes that conditions are right and that it only needs such leadership as the college can give.

"Washington and California maintain extensive drug gardens," said Dean Ziefle, "and it is through this work that there are many large drug farms in these states. There are a number of drugs indigenous to Oregon which could be sold with profit if someone could standardize them for shipment.

"There is enough foxglove, or digitalis, growing on the western coast of Oregon to supply the demands of the United States. However, there is no demand for the drug, as manufacturers are of the opinion that it is not of sufficient strength. Nearly all digitalis is imported from England and Belgium. The same is true of peppermint, which is certainly profitable to grow. The school of pharmacy should be in a position to regulate the cultivation through the analysis of the oils. Many other research problems could be worked out to the benefit of the people of Oregon and to the advantage of the American market in certain drugs."

RESEARCH WORK ON DIGITALIS

Wm. J. McGill

William J. McGill, holder for the current year of the Stearns' Fellowship for research work at the College of Pharmacy, University of Michigan, and who graduated from that institution last year with the degree of bachelor of science in pharmacy, is now engaged in research on digitalis under the direction of Dr. Henry Kraemer as a part of the requirements for the degree of master of science. Various investigations have been heretofore undertaken in this country on the active constituents of digitalis as represented by fractions isolated from the crude drug by different solvents, but the work has been done entirely from the standpoint of the pharmacologist, and no attempts, so far as known, have been made to determine whether these fractions have a reasonably constant composition from the chemist's viewpoint. A careful study of the chemical composition of the different extractions will therefore probably prove of some value in explaining the widely varying results obtained from samples of the crude drug.

The plants of the *Digitalis purpurea* used in this research were grown in Medicinal Plants Garden established with the financial cooperation of Frederick Stearns & Company, of Detroit. Work on the Garden was begun in November 1918, and exhibits of the plants grown in the garden have already been shown in different places, particularly at the Michigan State Fair last year, where one of its purposes, to stimulate the interest of plant growers was admirably served. All data collected in connection with the garden will be utilized for publication and distributed to growers of medicinal plants as conditions may seem to warrant. The researches will be conducted along a number of different lines as follows; Morphologic and taxonomic study of plants; breeding for field of drugs and increase of active principles; critical study of assay methods; chemical constitution of the active principles; pharmacological action of the chemical constituents. It is stated that the digitalis from first year plants harvested in 1919 assayed about three times the U. S. P. requirement, practically the same result obtained from first year plants harvested in 1918.

SOUTH DAKOTA STATE

The South Dakota State College of Pharmacy will establish during the coming year a poisonous plant garden as a part of the Medicinal and Poisonous Plant Investigations Gardens for the purpose of making a study of the poisonous plants of the State of South Dakota. This garden will be established under the direction of Anton Hogstad, Jr., instructor in the school of pharmacy, who developed the present medicinal plant garden now maintained by the school.

A number of seeds have already been planted in the greenhouses which will be later transferred to the plot set aside for this garden. A series of garden labels will be prepared which will denote the scientific and common name, places where found in the State and any other points of interest in regard to the plant in question.

Every year marks enormous annual losses among the live stock of South Dakota. At the present time very little work has been done on the poisonous plants of South Dakota. Many problems confront the live stock men of this State which need immediate attention. The present so-called "alkali-disease" is only one of these many problems. From all indications this disease appears to be a case of ergotism. Dr. C. C. Lipp, director of the Animal Health Laboratories, will co-operate with the school of pharmacy on this project, which will materially broaden the scope of the endeavor.

A homecoming for graduates of the school of pharmacy has been planned in conjunction with the 1920 meeting of the South Dakota Pharmaceutical Association to be held in Brookings, probably the first week in August. Use of the college dormitories for boarding and lodging has been secured for the visitors. The South Dakota druggists have one of the strongest organizations in the country, for a registration which permits pharmacy practice in the State automatically makes the practitioner a member of the association. There were 910 members last year.

UNIVERSITY OF IOWA

Carl Schlegel of Davenport was in Iowa City recently to visit Clarence Wierks, '18, an employee of the Schlegel Company, who has been ill at the University Hospital for some time. Mr. Schlegel called on friends at the college, and also made a brief address to the student body about some of the essentials to success in the drug business.

H. M. Moore, '05, of Montpelier, Idaho, has been visiting his mother in Iowa City. Mr. Moore recently lost his wife from pneumonia and was very ill himself.

J. M. Bladin, '08, of Milbourne, Wyo., who was called here by the illness of his wife and children, expects to return shortly. Mr. Bladin still retains an interest in the drug store at Cedar City, Utah, which he operated for a number of years, but is not actively engaged in pharmacy at the present time.

Mrs. Kline of Tabor, was the guest of her daughter Helen, '21, a few weeks ago, and while here, attended the school of citizenship for women conducted by the Extension Division.

An article on Sunflower Silage under the authorship of R. E. Neidig, '15, assisted by Miss Vance, recently appeared in one of the agricultural journals. Mr. Neidig is in charge of the Experiment Station of the Agricultural College of the University of Idaho at Moscow

C. E. Jacobs '14, called at the College recently while on a visit to his father. He expects to acquire full ownership of the drug business at Fontanelle where he has had a part interest for some time.

W. W. Haire, ex '92, of Fort Dodge, Iowa, is the newly appointed Commissioner of Pharmacy, succeeding D. E. Hadden of Alta.

PHILADELPHIA

Dr. Henry Leffmann, the well-known physician-chemist of Philadelphia, and a pioneer in research work, is the latest addition to the faculty of the college.

The campaign for membership in the American Pharmaceutical Association is making headway, and it is hoped to get every member of the graduating class enrolled in that organization before the year passes by.

The Galen Society, an old established pharmaceutical college organization, held its annual banquet at the Rittenhouse Hotel April 15. The president and secretary are Matthew Kramer and Joseph Lowenthal, respectively.

At the recent inter-scholastic athletic meet held in Philadelphia, the P.C.P. stalwarts ran a close second to the Hahnemann College athletes. Ferdinand Motley, a senior student, carried away three first-prize medals.

Mrs. Charles H. LaWall is the first vice-president of the Philadelphia Branch of the A.Ph.A.

The Phi Delta Chi fraternity resumed its pre-war social activities with an elaborate banquet at the Rittenhouse Hotel on the evening of March 12. Prof. Charles H. LaWall served as toastmaster, and several members of the faculty attended as guests of the chapter.

Earl H. Cone, an alumnus of Atlanta, Ga., and a prosperous Dixie druggist, came all of the way to attend the Phi Delta Chi banquet, but, due to railway complications did not arrive in time for the function. That did not prevent him from participating in a banquet, however, for he immediately assembled members of his class (1901) residing in Philadelphia, with whom he enjoyed a dinner and reminiscent talks at the Arcadia. Those present were Drs. F. C. Lewis and E. H. Klopp, of the Jefferson Hospital staff; Robert Bell, a pharmacist of West Philadelphia; J. B. Tingle, a Norwich salesman, and Mr. Cone.

TEMPLE UNIVERSITY

The members of the 1920 class in pharmacy, Temple University, Philadelphia, enjoyed a most delightful outing to the Mulford Biological Laboratories, at Glenolden on the afternoon of April 9, there being seventy in the party, including the class in bacteriology. Special car service was provided, and each visitor received a souvenir program. The students were highly pleased with the trip, which was not only entertaining, but instructive, as it gave them a clear idea of how biological products are produced on a large scale.

R. I. STATE BOARD WOULD BAN OPIATES IN PATENT MEDICINES

Early enactment of legislation in Rhode Island prohibiting the manufacture and sale of any patent medicine containing opium or any of its derivatives or preparations is again recommended in the annual report of the State Board of Pharmacy presented to the Legislature.

Pointing out that enforcement of such a law would require the constant services of an inspector, the board recommends that such an office be created.

Legislation placing restrictions on the sale of paregoric is also asked.

There are 287 registered pharmacies in the State, 412 registered pharmacists and 274 registered assistant pharmacists. The report says 119 pharmacists and 125 assistants are without location.

IMPORTATION OF DISTILLED SPIRITS

The Treasury Department has ruled that intoxicating liquors may be imported for non-beverage purposes on compliance with the provisions of section 79 of Regulations No. 60, issued by the Federal Prohibition Commissioner and which supersede the provisions of Treasury Decision 37391 in so far as they are designed to determine whether liquor was to be imported for beverage or non-beverage purposes.

The Philippine Government is considering granting to an American concern the control, either by sale or lease, of a large tract of land for a camphor plantation. It has been already demonstrated that the soil and climatic conditions of certain parts of the islands are well adapted to camphor growing, and it is believed that the establishment of one large plantation would help the local industry materially.

Educational Department

Devoted to Information, Criticisms and Suggestions on Pharmaceutical Topics of Special Interest to Era Course and Other Students.

Conducted by C. VERNE NICHOLS, Ph.C., B.A., M.S., Director of the Era Course in Pharmacy.

THE U. S. P. AS A REFERENCE BOOK

Parts VIII and IX of the Era Course Lectures in Pharmacy contain a concise and comprehensive description of the various drugs. If the space allowed, a more detailed account would be given. This additional detailed information must be gained from the U. S. P., and in this connection it is expected that the U. S. P. be used as a reference book, and indication of its use reflected in the answers. Students who exert their efforts in this line are making the most of the opportunity offered by these Lectures.

EUTECTIC MIXTURES

If we melt together any two metals which can dissolve each other, an alloy or a solution is formed in which either one of the constituents may be considered the solvent. Also, if two solids are rubbed together in a mortar, a product similar to an alloy is formed, and the mass becomes a liquid. According to the rules of solutions, the freezing-point of one constituent is lowered by the other, and vice versa; the amount of the lowering of the temperature depending on the composition, i. e., the amount of each metal present. A number of cases are known where the alloy freezes much lower than the lowest freezing constituent, such as Wood's metal, Rose's metal, etc. The lowest freezing alloy or the lowest freezing mixture of any two or more such substances is known as the eutectic mixture, or as simply the eutectic.

COLLOIDS AND CRYSTALLOIDS

A large number of apparent solutions of certain substances do not obey the laws of ordinary solutions, yet have at least some of the properties of true solutions. Such substances are starch, albumen, gelatin, agar-agar, the gums, etc. While these solutions lower the freezing-point and vapor-tension of the solvent and diffuse, though very slowly, they do not possess these properties to any marked degree. This difference in properties can scarcely be accounted for simply on the basis of the greater masses of the molecules, and consequently the theory has been advocated that colloids are particles suspended in solution rather than dissolved. The fact that these suspended particles in some cases can actually be seen through the microscope and also that colloids can be separated from crystalloids in solution by dialysis supports this theory, and shows one of the main differences between crystalloids and colloids.

UNSATURATED HYDROCARBONS

There are two important series of unsaturated hydrocarbons: the olefines, or ethylene series, and the acetylene series. They contain less hydrogen than the paraffin series with the same number of carbon atoms. Since carbon has a valence of four, to satisfy this valence there must be four hydrogen atoms, or their equivalent, joined to the carbon atom. In these compounds this is not the case, and as a result they possess the characteristic property of forming additive compounds, or of uniting directly with other compounds. It is this property which has given rise to the term unsaturated.

RECENT ERA COURSE GRADUATES

Matriculation Number		Graduation Average
10,742	Frederick E. Crole, Picher, Okla.	96%
10,677	Vernon L. Larson, Camp Bragg, N. C.	94%
10,625	Dennis E. Lowney, New Bedford, Mass.	85%
10,287	Florence E. Raddatz, Lewistown, Minn.	94%

QUERIES ANSWERED

Questions answered under this caption are of a general nature and are numbered consecutively, beginning with the issue of the Era for November, 1918.

343. What four States of this country rank highest in the production of domestic mineral waters?

In value of product: Wisconsin, New York, Indiana and Minnesota. In quantity of output: Minnesota, New York, Wisconsin and Massachusetts.

344. (a) What are saponins? (b) What are four official drugs which contain substances belonging to the saponins?

(a) The term "saponin" is applied to a group of plant constituents which have the property of forming aqueous solutions which foam on agitation, like solutions of soap. All saponins have glucosidal properties, and are hydrolyzed when the solutions are heated with dilute mineral acids, being split into dextrose and a non-toxic body, soluble in cold water, called sapogenin. The latter body, which is not identical for all saponins, has acid properties and forms water soluble crystallizable salts with the alkalies. (b) Official drugs which contain saponins are digitalis, sarsaparilla, senega and grindelia.

345. Why is the reaction of solution of ferric chloride acid?

A solution of ferric chloride cannot be permanent without the presence of free hydrochloric acid. In the absence of a sufficient quantity of free hydrochloric acid, a basic ferric chloride precipitate is formed.

346. What are the chemical reactions which take place in the manufacture of syrup of calcium lactophosphate?

Calcium carbonate is first dissolved in lactic acid, the reaction being thus indicated: $CaCO_3 + 2HC_3H_5O_3 = Ca(C_3H_5O_3)_2 + CO_3 + H_2O$. Upon the addition of phosphoric acid, tricalcium phosphate is first precipitated, then redissolved in the excess of phosphoric acid, forming soluble calcium acid phosphate and lactic acid, as shown in the following equation: $3Ca(C_3H_5O_3)_2 + 2H_3PO_4 = Ca_3(PO_4)_2 + 6HC_3H_5O_3$, and $Ca_3(PO_4)_2 + H_3PO_4 = 3CaHPO_4$.

347. Is the specific gravity of acetic acid a reliable criterion of its strength?

It is not. Acetic acid of maximum strength increases in its relative weight on being mixed with water until the percentage is reduced to 79 per cent, when the maximum density is reached. An acid of 43 per cent has the same specific gravity as one of 100 per cent.

and between 72 to 85 per cent, the density shows very little variation.

348. Criticise and name the reaction occurring in compounding the following prescription:

℞

Sodium borate	½ dram
Sodium bicarbonate	½ dram
Oil of eucalyptus	2 minims
Oil of gaultheria	2 minims
Thymol	1½ grains
Glycerin	1 ounce
Water, enough to make	2 ounces

M. Ft. sol.

Glycerin in the presence of water decomposes sodium borate, forming metaborate and boroglycerol. Water reacts with the boroglycerol to give glycerin and boric acid. The boric acid with sodium bicarbonate gives sodium borate and carbon dioxide. The mixture should be made in a mortar and then be allowed to stand until effervescence has ceased before attempting to bottle it.

349. What is the difference in mucilages of gums of the arabin type and those of the bassorin type? Name an official mucilage of each type.

The consistence of a mucilage depends upon the nature of the gum used in its preparation. If the gum is of the soluble arabin type, the mucilage is a syrupy solution, while if it is of the insoluble bassorin variety, the mucilage is a semi-solid or a thin paste of gum and absorbed water. The mucilage of acacia is of the arabin type and mucilage of tragacanth is of the bassorin type.

350. Why does the Pharmacopoeia direct the use of heat in the official process for tincture of kino?

The kino is directed to be heated on a water-bath for about one hour to destroy the ferment or enzyme which causes gelatinization of the tincture.

351. What is the object in the manufacture of the official glycerite of hydrastis of removing the alcohol by distillation and then pouring the residue into ice-cold water?

To get rid of the soft resinous matter extracted from the root. This is immiscible with water and possesses no medicinal virtues.

352. What is the principal distinction between a precipitate and a sediment?

The term "precipitate" is used to designate an insoluble substance which has been separated from a solution by heat, light or chemical reaction, while the term "sediment" is applied to the collection of insoluble matter in a liquid that may be deposited by gravity, such a deposit not being the result of a chemical reaction.

353. What are two official preparations in the preparation of which the Pharmacopoeia directs the clear portion to be decanted from any sediment which may have deposited?

Collodion and cantharidal collodion.

354. What are four chemical incompatibilities with (a) acacia? (b) Solution of hydrogen peroxide?

(a) Alcohol, borax, ferric chloride, and lead salts. (b) Bromine, iodine, permanganates, and sulphur.

355. What constitutes an adulteration? A sophistication? A substitution?

An adulteration is the intentional addition of foreign substances for the purpose of defrauding the purchaser. Sophistication is the addition of some substance which closely resembles the true, while substitution is simply replacing the drug or other substance asked for by an entirely different one, either intentionally or otherwise.

356. In what four States is peppermint largely cultivated for the manufacture of oil of peppermint?

Indiana, Michigan, New York and Ohio.

PHARMACIST FOR HEALTH BOARD

Two Bills Affecting Druggists Put Through Maryland Legislature Just Before Session Ends

Baltimore, Md., April 20.—The biennial session of the Maryland Legislature came to a close recently with at least two bills of special interest to the drug trade to its credit. One of these bills was that which, in its original shape, provided for the divorcement of the drug section from the State Board of Health, placing the enforcement of all laws related to drugs and similar matters under a board to be composed of seven pharmacists and relieving the Pure Food and Drugs Commissioner of this work.

At the suggestion of the Governor, who pointed out at the time a delegation of pharmacists called upon him, that the State budget had already been completed and that there was no way in which to provide funds for the work of the proposed commission, the draft was amended so as to provide for the addition of a pharmacist to the State Board of Health, in order that the druggists might always have the benefit of a voice in the board when it came to dealing with subjects concerning their trade. The amended bill was put through the House, went to the Senate, which amended it again, though not so as to change its import.

This change was discussed at a conference between R. E. Lee Williamson, as chairman of the Legislative Committee of the Maryland Pharmaceutical Association, and others with members of the Legislature last Friday. The amended bill was then passed by the Senate and went to the House for concurrence of that body in the amendment. It now goes to the Governor for his signature. Pharmacists of this city and State admit that they have not gotten what they wanted, but they feel that a good beginning has been made, and hope to obtain further concessions two years hence.

The other bill put through, known as the pharmaceutical examination requirement measure, provides that any applicant for examination before the State Board of Pharmacy for registration as pharmacist must have graduated from a reputable college of pharmacy, which demands not less than four years of high school from its matriculates. This bill places the State on a level with Pennsylvania and Virginia as far as the educational requirements of pharmacists are concerned, and meets the standard set by the United States Government. It was generally indorsed by druggists throughout the State, and places Maryland in the same class with the most progressive States in the country as far as the training of the pharmaceutical profession is concerned.

PURCHASE BUILDINGS FOR BUSINESS

Fairchild Bros. & Foster, well-known manufacturers of digestive ferments and other pharmaceutical specialties, announce that they have purchased from the Estate of James Pyle, the buildings Nos. 70, 72, 74, 76 Laight street, 413 Washington street and 428 Greenwich street, New York City, and will occupy the entire space for office, wareroom and factory purposes.

Merck & Co. Officers Re-elected

At the annual meeting of stockholders of Merck & Co. on April 6, the retiring directors were re-elected. The directors re-elected the old officers: President, George Merck; vice-president and treasurer, George W. Merck; secretary, Edward H. Green; second vice-president, J. W. Parry.

Women in Pharmacy

CONDUCTED BY EMMA GARY WALLACE

NOW REGISTERED IN MISSOURI

Miss Anna B. Brummall

Miss Anna Belle Brummall, of Salisbury, Mo., bids fair to become a shining example of what women may accomplish in pharmacy. In this respect she is following in the footsteps of her father, L. Don Brummall, one of the most successful druggists in Central Missouri, as well as the tendencies of an ancestry that has produced many well-known physicians and pharmacists. Miss Brummall was born in Salisbury in 1896, where she received her early education and graduated from high school, spending such time as she could spare in helping her father in the drug store during hours out of school, and later attending Missouri University, where she made a fine record. Before completing her university course, she decided to take up pharmacy, and entered the St. Louis College of Pharmacy, completing the first year's work. After spending the summer vacation in her father's store, she entered the Chicago School of Pharmacy, graduating a year later with the degree of Ph.G.

On returning home she found that under the Missouri Pharmacy law she would not be permitted to take the examination for full registration papers; she completed a review course in the Bowen Institute of Pharmacy, and then took the assistant's examination before the Board of Pharmacy, making the highest average attained by any applicant in 1917. Three weeks later she successfully passed the examination of the Oklahoma Board of Pharmacy as a full registered pharmacist. Returning to her father's store, she patiently waited for two years to elapse so that she might be eligible to take the full registered examination in her own State. This she did in 1919, where she made the highest grades, entitling her to the prize of $40 offered by the Bowen Institute, as also the prize awarded by Prof. J. H. Beal of Urbana, Ill. She expects to make pharmacy her life work. Her father recently established one of the finest stores of Salisbury, in which new fixtures have been installed and which cost about $15,000. Mr. Brummall feels that he ought to step back and let his ambitious children have a chance—his son Lawrence is a student in the Philadelphia College of Pharmacy—and it will be no surprise to see this hustling pharmacy pass into the ownership of Miss Brummall and her brother.

AROUND THE CIRCUIT

The March meeting of the Woman's Organization of the Chicago R. D. A. met as usual in Roosevelt Hall, State Lake Building. There were two unusual and pleasing features. The first was that the Young Ladies' Auxiliary composed mostly of the daughters of the members, acted as hostesses; and the second that a most interesting and constructive address was given by Mr. Nahigian on "Oriental Rugs." Mr. Nahigian is an authority on the subject and gave the ladies many important points relating to the selection of good rugs and their care. He exhibited for purposes of illustration, a large number of rugs, including some of his most wonderful and famous pieces. There were saddle-bags, school-bags, divan-rugs and drapes, prayer-rugs, and bridal-rugs, the latter being begun by the girls at the age of four, and sometimes not finished until their marriage at about the age of fifteen. Coffee and wafers were served by Mrs. Victor Geispitz who was Chairman of Hospitality.

The April Meeting of the Chapter was held in the State Lake Building at which time the annual election of officers took place.

It was also decided to have a Rummage Sale which will be conducted by the Ways and Means Committee. An appeal is being made for all of the "White Elephants" any of the members or their druggist friends may have, such as shop-worn toilet goods, stationery past its first freshness, or other goods. The members of the Ways and Means Committee are Mrs. J. H. Reimenschneider, Mrs. H. M. Moffit, and Mrs. Joseph Forbrich.

Sympathy is extended to Miss Agnes Sasse of Cincinnati, O., who has been called upon to go through an unusual experience within the last few weeks. Her father and mother were both taken by death within two days of each other, and the double funeral was held at St. Paul's church. Miss Sasse is in charge of the Sundries and Fancy Goods Department of the Cincinnati Economy Drug Co.

Miss Anna B. Smedley who has been conducting her own store at 4909 Eastern Ave., Cincinnati, recently filed a voluntary petition in bankruptcy

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The W. O. B. A. R D. held its March meeting in the Massachusetts College of Pharmacy. Mrs E. B. Twitchell presided. There was a program, an interesting feature of, which was an address by Mrs. W. R. Rand, who spoke on "Ear Rings and Other Heirlooms." Refreshments were served and a social hour enjoyed.

Cincinnati Chapter, No. 5, held its March meeting with Mrs. A. P. Crause, Chase & Kirby Road. The weather was exceedingly inclement, but in spite of all, there was a good attendance, showing an unusual interest in the work.

Congratulations are extended to Mr. and Mrs. Reuben Levin, of 2156 West Division St., Chicago, upon the occasion of the arrival of a bouncing baby boy

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Among the Secretaries of the State Pharmaceutical Associations for this year, are Miss Mary Fein, of Little Rock, Ark.; Miss Nora V. Brendel, of Wilmington, Del.; and Mrs. Flora Robinson, of Laurel, Miss.

The Ohio Valley Druggists' Association recently welcomed to membership, Mrs. Clara Wetterstroem, who has conducted the business of her late husband, Carl A. Wetterstroem, at Liberty and Denman Streets, Cincinnati. Mrs. Wetterstroem is to be congratulated upon being able to guide the business ship through the unsettled conditions of the past two or three years.

Miss Mary Snyder, the W. O. student who has been attending the Queen City College of Pharmacy, has just passed the Kentucky State Board examination for full registration in pharmacy. She is planning to continue her work and expects to graduate from college with the class this spring, when she will re-open her father's store and conduct it because of her professional equipment. It is further her intention to continue her work and to win the degree of Ph.C., and she is to be congratulated upon the excellent record she has made

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The March meeting of Philadelphia Chapter, No. 6, was held in the College of Pharmacy. Mrs. Nellie Florence Lee was unable to attend as she was a victim of the influenza and Mrs. H. C. Clapham, the first vice-president, filled the chair.

The Treasurer's report showed a remarkably good financial condition.

Mrs. Lee is now convalescing, although she has been very ill for a number of weeks, being quite prostrated with the after-effects of the epidemic.

The regular meeting of St. Louis Chapter, No. 8, was held at the Planters' Hotel, with Mrs. Pauley in the chair. There was a large attendance and one new member, Mrs. H. W. Carpenter. The ladies were invited by Mrs. Hoenny to attend a citizenship school at Yeatman High School.

Mr. Pauley and Mr. Hoelscher spoke at some length on the coming convention of the N. A. R. D., the headquarters of which will be at the Planters' Hotel, beginning Sept. 20. A number of committees were formed for special service at that time.

The hostesses of the afternoon for the social hour were, Mrs. Pauley, Mrs. Uhlich, and Mrs. Johnson. Prizes were awarded to Mrs. Fricke, Mrs. Hanser, and Mrs. Hahn.

Milwaukee Chapter, No. 19, held its regular business meeting at the Hotel Blatz. Routine business was transacted and a social hour enjoyed.

Rock Island County druggists, Rock Island, Ill., together with their ladies, held a very delightful banquet at Manufacturers' Hotel, in celebration of their fourteenth annual meeting. For this occasion, all of the drug stores of the county were closed at eight o'clock. A reception was given, the ladies of the W. O. N. A. R. D. receiving. Reports and election of officers were followed by a banquet which was the most important entertainment feature of the evening. Following the dinner, games were played, the prizes being awarded by the Abraham Candy Company of Moline, the Hartz & Bahnsen Co., of Rock Island, and Hickey Bros., of Davenport.

Rock Island Chapter, No. 15, held its last meeting with Mrs. E. Jericho of Moline, a large number being present in spite of inclement weather. It was voted to send flowers to sick members and other routine business was transacted. The rest of the afternoon was devoted to card games. The guests of honor of the afternoon were Mrs. P. Blount of Chicago, and Mrs. Pike of Rock Island. Mrs. Pike joined and became a member in good standing.

Great sympathy is extended to Professor A. L. Suter of Louisville, and to his little daughter, who have lost a wife and mother. Mrs. Suter will be greatly missed by Louisville Chapter, No. 11, also, for she was one of the most dearly beloved members and a favorite with everyone.

The Chapter held its recent meeting at the Louisville College of Pharmacy, with Mrs. Oscar Paul in the chair. The chief topic of the afternoon was a campaign for the college Building Fund, the ladies of the Chapter pledging their support and presenting to J. J. Seiberz, chairman of the Fund, a check for $125, and the promise of more. This gift was formally made at a preliminary evening meeting, when a lunch was served by the Executive Board of the Chapter to the gentlemen who are back of the Building Fund "Drive." Three new members were recently added to the Chapter, Mrs. C Osterholt, Mrs. Robert Seiberz, and Mrs. R. W. Scates of Crofton, Ky.

Indianapolis Chapter, No. 20, is proud of the work of four of its members who devoted their time and energy to the collection of funds for the orphans in Armenia. During the "Drive" for the Armenians, the president, Mrs. Berst, called a special business meeting, at which Indianapolis Chapter, No. 20, assumed the support of an orphan for a year. It was decided to pay the necessary amount in a lump sum, rather than by monthly installments as first determined upon.

The Chapter will comply with the request of the local Council of Women and appoint a "Thrift President" or thrift representative to unite in a general movement to combat the present high cost of living.

Each member was presented with a copy of the new 1920 Directory of Clubs and Club members affiliated with the Seventh District of the Federation of Clubs. It was resolved to open all regular meetings of the Indianapolis Chapter by the reading of the "Collect" printed on the first page of this Club Directory. This Collect reads:

"Keep us, O God, from pettiness; let us be large in thought, in word, in deed.

"Let us be done with fault-finding and leave off self-seeking.

"May we put away all pretense and meet each other face to face without pity and without prejudice.

"May we be never hasty in judgment and always generous.

"Teach us to put into action our better impulses, straightforward and unafraid.

"Let us take time for all things; make us grow calm, serene, gentle.

"Grant that we may realize it is the little things that create differences; that in the big things of life we are as one.

"And may we strive to touch and to know the great common woman's heart of us all, and,

"O Lord, God, let us not forget to be kind."

Mrs. Nellie T. Phipany, secretary of Rochester Chapter, No. 22, reports that earlier accounts of the Chapter doings have been delayed of late, because of shortage of help in the stores, and the need for the assistance of the women. The Chapter has joined the New York State Federation of Women's Clubs, and is receiving much inspiration from this association.

Mrs. J. S. Flannery and Mrs. J. T. O'Brian recently reported on charitable work done through the hospital and convalescent home for unfortunate young women, and a Talcum Powder Shower for the girls of the Door of Hope.

To save expense in providing a meeting place, the Chapter has decided to hold its monthly gatherings for the present at the homes of the different members. Mrs. J. S. Flannery of Ridge Road, recently opened her home, at which time the Rochester Pharmaceutical Association presented to the treasury of the "Baby Chapter" a check for $100. This was most enthusiastically received. Mrs. George Kahn, first vice-president, presided as Mrs. Harry Guilford was traveling in the far south.

A Soap Shower for the Door of Hope girls is being planned by the members.

The Rochester ladies levy a fine for non-attendance, and also for failure to wear the organization pin at the Chapter meetings.

Sympathy is extended to the family of the late Mr. and Mrs. William C. Durkee, of Boston, Mass. Mrs. Durkee's death occurred just two weeks before that of her husband, who was well known in Boston drug circles.

Obituaries

FRANK G. RYAN

Frank G. Ryan, president of Parke, Davis & Co., Detroit, Mich., died suddenly from pneumonia on April 20, after an illness lasting but three days. Funeral services were held at Christ Church in that city on April 22, the active pallbearers selected from an intimate group of his associates being John M. Francis, E. M. Houghton, Harry B. Mason, E. R. Larned, Harry L. Russell and Selby S. Coleman. There were about forty honorary pallbearers, representing the Board of Directors of the company and other close friends.

Frank G Ryan

Mr. Ryan was born in 1861 at Marcellus Falls, N. Y., and was educated in the public schools of Elmira. After several years' experience as a drug clerk in the pharmacy of Brown & Dawson, Syracuse, N. Y., he entered the Philadelphia College of Pharmacy, graduating therefrom in 1882. He then received an appointment on the college staff, continuing as a member of the faculty for fourteen years. During the summer months, in order to use his leisure productively, he did sales and detail work for Parke, Davis & Co., and finally in 1900, he severed all other connections and joined the staff of that house as chief pharmacist. From that time on he was rapidly promoted, serving in succession as a member of the Board of Directors, secretary of the corporation, vice-president, and in 1907, became president of the company, a position he occupied until his death.

For many years Mr. Ryan took an active part in the affairs of the American Pharmaceutical Association. Later on he became one of the founders of the American Drug Manufacturers' Association, serving as its president during the first two years of its existence. In the civil and industrial life of Detroit he was a leading figure, and held membership in a number of well-known clubs, two of which—the Detroit Club and the Country Club—he served as president. He is survived by a daughter, Mrs. Charles A. Dean, Jr.; a brother, George Ryan, York, Pa.; a sister, Mrs. Maude Roth, Lancaster, Pa., and a grandson, Charles A. Dean, 3d.

James E. Bartlett, heretofore director of sales, succeeds Mr. Ryan as president and general manager of Parke, Davis & Co., and the place rendered vacant on the Board of Directors has been filled by the election of Harry B. Mason, director of promotion, publicity and advertising.

WILLIAM H. GOVE

William H. Gove, president and general manager of the Lydia E. Pinkham Medicine Co., died at his home in Salem, Mass., on April 14. He had just returned from Miami, Fla., where he had spent the winter, believing that the warm climate there would be beneficial to him. For a time he did improve, but about three weeks previously he began to fail steadily.

Mr. Gove was born at South Berwick, Maine, Sept. 4, 1851. He graduated from the Lynn High School in 1869, from Harvard College, where he took the degree of A.B., with distinction, and with special honors in history, in 1876, and from Harvard Law School, where he received the degree of LL.B. in 1877.

On the death of Mr. Gove's eldest brother in 1900, the care of the business of the Lydia E. Pinkham Medicine Co., of Lynn, came into his hands. Since that time he had been the president and general manager of the company, had introduced many improvements in its business and administered it with marked success and ability. He was first vice-president of the Proprietary Association.

WILLIAM C. DURKEE

William C. Durkee, long actively identified with the drug trade in Boston, died recently at his home in Newton Centre, aged 66 years. His active connection with the drug trade extended over many years. He was a native of Brandon, Vt. His first experience as an apothecary was obtained in the store of Case & Cheney in that town. In 1872 he came to Boston and attended the Massachusetts College of Pharmacy, graduating at the head of his class is 1875. He was able to take, also, several other collegiate courses during and after his M. C. P. training.

For several years Mr. Durkee was employed by Theodore Metcalf & Co., but in 1882 he formed a partnership with Edward S. Kelley under the firm name of Kelley & Durkee, Boylston street. He afterward acquired Mr. Kelley's interest.

Mr. Durkee served as president of the Massachusetts State Pharmaceutical Association, as vice-president of the New England Retail Druggists' Union and as chief State executive in Massachusetts of the Inter-State Retail Druggists' League. He had been a vice-president of the Massachusetts College of Pharmacy, which he served for a period of ten years as trustee as well as a member of important committees.

Mr. Durkee had written a variety of scientific papers for the medical and pharmaceutical press. For many years almost all the Koch tuberculin used by physicians and hospitals throughout New England passed through his hands, and he was probably the first man in America to extract pilocarpin from jaborandi, in quantity. In 1912 he retired from the drug business and up to about a year ago was engaged in the automobile industry in Boston. He leaves a daughter and two sons.

HALOGEN LABORATORIES' ADVERTISING

The Halogen Laboratories, Amityville, N. Y., are conducting a publicity campaign in which attention is called to I-O Ointment, which recently made its initial appearance on the market. It is claimed to contain 6 per cent iodine therapeutically free and 12 per cent of acetanilid, and does not stain the skin like ordinary iodine. It possesses strongly antiseptic and healing properties, and has been successfully employed by five eminent New York and Philadelphia physicians. It is marketed in collapsible tubes which do not break and which keep the ointment free from dust and other impurities.

S. K. & F. BULK ASPIRIN TABLETS

In response to requests from retailers in many sections of the country, Smith, Kline & French Company, of Philadelphia, announce that in the future they will make their bulk Aspirin Tablets plain. They state that the last three months have witnessed a tremendous increase in the sale of S. K. & F. Red Brand Aspirin, especially in package goods, 8's, 12's, 24's and 100's, and that while the retailer is making an attractive profit on these package goods, he generally prefers S. K. & F. tablets for prescription work without the initials, hence their decision to make their bulk Aspirin Tablets plain in the future.

PREVENTIVE TREATMENT FOR HAY FEVER

Satisfactory results in 89% of the cases is certainly a very encouraging showing, and that is what Dr. William Scheppegrell reports in a recent issue of Public Health Reports, in an analysis of 707 cases of hay fever treated with pollen extract. The remaining 11% consisted of 4% showing little or no improvement and 7% discontinuing treatment before the result could be noted. An important feature of the report is that in no case was there an aggravation of symptoms. A diagnostic test is advised in all cases, particularly where there is any doubt as to the cause of the attack, to determine the class of pollen responsible and the degree of susceptibility of the patient. Susceptible persons should be treated at least four to six weeks before the usual time of attack. Moderate doses are recommended, at fairly frequent intervals of three to four days, but during an attack the dosage should be reduced. Large doses should be avoided, as they may produce severe reactions and other complications.

Experience has shown that the best results in a large number of individuals are obtained by combined treatment with pollen extract and bacterins. This is especially true with asthmatic individuals. The latter condition may be considered as a secondary infection, resulting from the pollen irritation. The bacterin used should include such organisms as are commonly found present in infections of the broncho-respiratory tract. The pollen extract and the bacterin may be administered simultaneously, in small doses, so as not to produce severe reactions, and at two to three day intervals.

It is important to remember that early treatment is important, and that preventive treatment, before the attack, is usually more effective than curative treatment, begun after hay fever symptoms have developed. The Mulford Pollen Extracts advertised on another page of this issue are prepared from carefully selected pollens and are accurately standardized as to the protein content in each dose. Mulford Influenza Serobacterin Mixed is admirably adapted for use in the combined treatment above referred to, since it contains the organisms generally found present in the respiratory tract.

In these products, therefore, physicians have available reliably prepared materials to enable them to relieve the unfortunate hay fever victims to the best extent of the present knowledge on the subject.

THE BAYER ASPIRIN TEST

The Bayer Company says that druggists can make a trade test which will quickly determine which Aspirin tablets a customer wants by asking the customer the question, "Do you want the genuine 'Bayer Tablets of Aspirin,' which have been prescribed by physicians for over twenty years?" Where this has been tried out, the manufacturers state, it has been proved that people not only wanted, but expected Bayer Tablets of Aspirin.

The company states that Bayer advertising is appreciated by druggists who have tied up their stores with the advertising campaign now on by putting a Bayer display in colors in their windows, and using other sales helps supplied by the manufacturer. Write to the Bayer Company, Inc., 117 Hudson Street, New York, for one of these new handsome displays which will be sent without cost, prepaid.

Johnston Optical Co. to Continue

George Johnston, founder and sole owner of the Johnston Optical Company, Detroit, Mich., died on March 27, and announcement is made by Carrie Romeila Johnston, special administratrix, that the business of the company will be carried on until the close of the administration of his estate, when the legal heirs will become the owner and continue the business under the old name of the company.

STOCK UP ON DIAMOND DYES

Wells-Richardson Co. are voicing a warning to dealers to double-stock on "Diamond Dyes" and not to be caught short by the big spring demand. An early trade survey shows that 1920 will be a record-breaking year for Diamond Dyes. Good, new fabrics are so tremendously high in price and others so inferior in quality, that the slogan, "Diamond Dye your old clothes and get another year's wear out of them," has already resulted in doubling and in some cases quadrupling the sale of Diamond Dyes. There was a shortage in stock last year and "Diamond Dyes" is trying to prevent a similar trade catastrophe this year by urging dealers to stock twice as much as they ordinarily do and escape the disappointment of inability to meet all calls. Dealers are fortified against any possible loss, for "Diamond Dyes" are returnable at any time at the price paid.

"Diamond Dyes" are guaranteed to give satisfaction because there is always a "Diamond Dye" for wool or silk and a "Diamond Dye" for cotton, linen or mixed goods. Under the new sales plan with a dozen free packages and 5% discount on a gross order, dealers make a clean-up of 82% profit on every gross of "Diamond Dyes" sold.

CASCARETS FREE, REBATE PLAN ENDS

The Cascaret folks have abandoned their former rebate plan and in its place are making a sales proposition which they say is just like adding a 10% slice of profit to every druggist who accepts the plan. For every order for a $12 assortment of the 25c or 50c sizes, one dozen 10c packages are given free. This means a clean gift of $1.20, which enables the druggist to take care of those customers who still insist on the smaller size package. The manufacturers have stopped advertising their 10c size, and are making their big appeal to druggists on the ground that it is just as easy to sell a 25c or 50c size as a 10c package. Druggists are requested to ask any wholesaler for a "Free Cascarets Order Blank" or write a regular $12 order to the wholesaler and ask for the free goods.

HEYDEN BOOKLET ON SALICYLATES

The Heyden Chemical Works, Garfield, N. J., has just issued a carefully prepared booklet on the topic of "What Becomes of Salicylates in the Body," which differs somewhat from the average piece of literature sent out by manufacturing houses, as it deals with non-proprietary products—many of them being U. S. P. chemicals. The brochure includes a brief survey of the manufacture and therapeutic uses of salicylic acid, its compounds and derivatives.

One of the features of the booklet is a table of dosage, therapeutic indications, solubilities and incompatibilities of acid salicylic; acid acetylsalicylic (aspirin); ammonium salicylate, lithium salicylate; magnesium salicylate; methyl salicylate; phenyl salicylate (salol); sodium salicylate and strontium salicylate.

NEW HOMES FOR LEHN & FINK, INC.

Increased business has made necessary the erection of two new homes, a large manufacturing plant and laboratory at Bloomfield, N. J., and an office building for executive offices and sales rooms at Greenwich, Morton and Barrow streets, New York City, for Lehn & Fink, Inc. The manufacturing plant was completed this spring and only recently occupied, while the new office building will not be ready for occupancy for a couple of months.

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Advancing Pre-Requisite Requirements

The dominant note struck at the meetings of the pharmaceutical organizations held in Washington last month clearly sounded the attitude of many pharmacists toward legislation that would require graduation from a recognized school of pharmacy as a pre-requisite to examination by a board of pharmacy for full registration as a pharmacist. Not only was this attitude expressed in the address of President Sayre of the A.Ph.A., but President Jarrett of the N.A.B.P. recommended that college graduation be made a requirement for registration in all of the States after 1923, and the American Conference of Pharmaceutical Faculties went on record as favoring a requirement of high school graduation and three years of college work after 1925. Closely related to this subject, also, were the remarks of the representatives of the Army and Navy which left no doubts in the minds of those present that professional recognition of pharmacists on a parity with that accorded the practitioners of medicine, dentistry, etc. in the Government service could come only after the pharmacists themselves had raised their general educational requirements to the standard of the other professions.

A strongly developing movement toward pre-requisite requirements is now in progress throughout the country. Already more than a dozen states have enacted such laws, while the general tendency in all teaching institutions has been and now is to make four years of High School education an entrance requirement for those who would take up the study of pharmacy.

The possible effect of such enactments upon the future of pharmacy has caused some to ask what would become of the commercial side of the business in the event that such requirements would obtain. Would there be a division of pharmacists into two classes, those whose business would be restricted wholly to professional work, as compounding prescriptions, performing analytical work and the like, and another class whose business would be restricted to proprietary medicines, grocers' drugs, and articles of a commercial character only? Particularly, as one querist put the question at a recent meeting of the New York Branch of the A.Ph.A., would the division of pharmacists into these two classes cause chain store systems to relinquish the compounding of prescriptions?

On the basis of present knowledge it is not probable that these questions can be answered positively and definitely. But no one can deny that the movement to put pharmacy on a professional basis is already going forward. Those most strongly favoring the graduation pre-requisite requirement see as the result of such enactments two distinct classes of pharmacists, their respective activities as yet not fully defined, but which may be broadly indicated as "registered pharmacists" and "registered druggists," the first-named group becoming the proprietors, and the second group the assistants, who may also, in certain localities, be licensed to sell simple botanicals, home remedies and the like, as a commercial proposition only. The strongest indication of an advance of standards comes from the colleges which are very generally pushing forward their entrance requirements and lengthening the terms of study to be followed in their institutions.

Official Recognition of Synonyms

A considerable experience in answering inquiries relating to the identity and status of popular names of drugs and chemicals prompts us to the belief that both Pharmacopoeia and National Formulary should devote more attention than they have given in the past to the recognition of synonyms of official substances. We are aware of the main objections against perpetuating a multiplicity of names for the same substance or preparation, as too frequently many synonyms have been applied without rhyme or reason, thus causing a confusion of terms and detracting from the simplicity of a scientific and established nomenclature.

On the other hand, "a condition, not a theory confronts" the drug trade in this matter, and so long as popular drug names or synonyms are employed by any considerable number of people to designate official drugs and preparations, greater recognition of the existence of these synonyms should be made in future revisions of the Pharmacopoeia and National Formulary. In omitting to give certain prevalent synonyms of official articles where such are known to exist, both works lose reputation from this lack of information, for the would-be user of the official guide is forced to consult a dispensatory or other reference work to locate a synonym which properly belongs only to such articles.

Students of language recognize the impracticability of the effort to make all people use a single name for a single object, desirable as such a practice would be. The best any authority can do is to recognize a vocabulary and provide standards that will promote the greatest uniformity and yet meet the diverse needs of those who may use such information. In commercial practice many names are currently employed to designate official drugs and preparations which are not to be found in either Pharmacopoeia or National Formulary, and so long as these names are in vogue, so long will the market reporter continue to use them. The rule that all official titles and corresponding English equivalents should be made as definite and specific as possible is in accord with the best usage and experience of all pharmacopoeial revisionists, but the usefulness of both Pharmacopoeia and Formulary, in our opinion, could be considerably enlarged by including in the official lists all synonyms of drug and chemical names which are correctly employed by those engaged in the production or commercial distribution of such substances, or which have more than a strictly local usage. The greater recognition of synonyms whose identity has been fairly established would in no way violate the principle of scientific accuracy in nomenclature, while the appearance of such names in the Pharmacopoeia and National Formulary would facilitate the use of these books as standards under the Food and Drugs Act.

Metric Standardization

Recently there was held in San Francisco under the leadership of the American Metric Association of New York, the Decimal Association of Manchester, the Decimal Association of London, and the World Trade Club of San Francisco, a conference to secure metric standardization of weights and measures within the jurisdiction of the United States and the British Empire. Just how much was accomplished at this meeting remains to be seen, but the effort made emphasizes the growing belief in this country that world standardization is desirable and necessary. If this idea is to prevail, it will mean the universal adoption of the metric system which, with the exception of the United States and the British Empire, is the system employed by all civilized countries of the world.

The advantages and disadvantages of the metric system have been the subject of much discussion for many years, the principal obstacle advanced against it being the confusion it is claimed would ensue if any attempt were made to adopt a system of weights and measures whose nomenclature and units have nothing in common with our language, history, or the records of our commercial transactions in the past. In these controversies, the logic of the situation has invariably been with the individual who advocated the adoption of the metric system on the ground of its simplicity and its general use throughout the world. In comparison therewith, as he saw it, our present system remains an antiquated jumble from the past, the continuation of which constitutes a hindrance to education, industry, world trade and all activities of daily life.

The events of the past few years have tended to show that the obstacles to the adoption of the metric system are not insurmountable. No less a personage than General John J. Pershing has stated that the experience of the American Expeditionary Forces in France showed that Americans were able readily to change from our existing system of weights and measures to the metric system. He also emphasized that the latter is the only system which has a scientific basis and facilitates calculations of all kinds, from the simplest to the most complex. Many large manufacturers, reaching out for foreign trade, have expressed similar views because they realize the efficiency attainable with a simple, logical, decimal system of weights and measures which is uniform and standardized throughout the world.

Centenary of a Rochester Pharmacy

Brief History of the Paine Drug Company from the Time of its Founder to the Present

Cyrus F. Paine

BEFORE Rochester had a jail or court house to safeguard and preserve the moral integrity of the community, before there were churches to minister to the spiritual needs of its inhabitants, and before there were banks to hoard its wealth, Rochester had a drug store to serve man's physical well being—and that same drug store is doing business today in the same spot where it was first established, and in the building which has been its home since 1873.

In 1820—one hundred years ago this year—William Pitkin founded the business which is today known by the name of the Paine Drug Co., and opened shop on the exact site now occupied by the Paine drug store in Main Street East. Mr. Pitkin, it is interesting to note, was Mayor of Rochester in 1845-46.

About 1840 the business was sold by Mr. Pitkin to L. B. Swan, who moved the store one door east, where it was conducted until the present building was erected in 1873. Shortly after the transfer of the business, Alfred S. Lane went to Rochester from Utica and entered Mr. Swan's employ as a clerk.

The name of Paine became identified with the business in 1852, when Cyrus F. Paine, who is still living in Rochester went to that city from Albion, where his father conducted a drug store, and, in partnership with Mr. Lane, bought out Mr. Swan. The firm name became Lane & Paine.

View of the interior of the Paine Drug Co.'s Store as it appears in 1920

Lemuel C. and James Paine, brothers of Cyrus Paine went to Rochester from Chicago, where they had conducted a big drug store for many years at the corner of State and Monroe Streets, selling out to Martin W. Huyk just before the great Chicago fire. Lemuel had studied law in the office of Chief Justice Sanford E. Church in Albion, but forsook the legal profession soon after his graduation from Union College to take up pharmacy, first in his father's drug store in Albion, and later with his brother in Chicago.

C. D. Van Zandt

Going to Rochester in 1873, Lemuel and James Paine bought the present site of the Paine business from Aaron Erickson and erected the building now occupied by the business, which stands today virtually the same in its exterior aspects as when it was built. Andrew Jackson Warner was the architect and J. G. Wagner, the contractor. Lemuel Paine became interested in the drug business as a partner with Cyrus Paine, but James Paine never was identified with the firm, only insofar as he had a hand in the erection of the building, although he spent the greater share of the remaining years of his life in or about the store. With his brother, Lemuel, he occupied living apartments on the fourth floor of the Paine building. Both men kept "bachelor's hall" there until they died. In his declining years James Paine visited Europe, and lived for a time over a hat store in Fifth Avenue, New York. He died in 1899.

C. D. Van Zandt, present head of the firm, has been identified with the drug business since 1868 and, with the exception of a year and a half, all of that time has been given to the Paine store, which he entered as a boy of all chores when the store had but six employes, rising through successive clerkships to become a stockholder and president of the concern, which now has close to sixty persons in its employ. Cyrus F. Paine, Mr. Lane and Curtis H. Haskins were members of the firm when Mr. Van Zandt became an employe.

Cyrus F. Paine retired from the business in 1888, his first partner, Mr. Lane, having died seven years previous. The retirement of Cyrus Paine left the firm in the hands of his brother, Lemuel

George W. Sanford

Frank H. Goler

Paine, and two other men who had become stockholders. These were Mr. Van Zandt, who joined the firm in 1881, succeeding Mr. Lane, and William R. Barnum. Mr. Haskins had previously retired. Lemuel Paine died in 1900, and ten years later Mr. Barnum retired from the firm and took as an independent concern the wholesale end of the business which he organized under the name of the Blauw-Barnum Co. Upon Mr. Barnum's retirement, Mr. Van Zandt incorporated the Paine Drug Company to do both retail and wholesale business, and took into the firm Frank H. Goler and George W. Sanford, who are his present associates.

The history of the Paine Drug Co., from the time of its founder to the present, is a story of hard work, strict application to business, energetic persistence, and adherence to the highest standards of merchandising. From a small apothecary's shop it has grown to be one of the largest wholesale and retail drug businesses in New York State, serving the wholesale trade from one end of the State to the other and catering to a large portion of the retail trade in Rochester. Besides dealing in drugs and other preparations commonly found in an up-to-date drug store, the company handles surgical instruments and all manner of supplies for physicians and hospitals. The building is a veritable beehive of industry, and not even a small idea of the extent of the business may be had from looking at the exterior. Fifty men and women are employed on its four floors, containing approximately 13,000 square feet of floor space. On the top floor an extensive drug and compound manufacturing business is carried on.

The business boasts of having opened and operated the first soda water fountain in Rochester and in Western New York, for that matter. As Mr. Van Zandt remembers it, the fountain was a magnificent sight in those days, ornate and elaborate in the extreme, and it attracted attention and patronage from miles around. There was no such thing as ice cream soda in those days. It was just plain "sody water," in three or four flavors, but mostly vanilla. Along about 1885 the store gave up its soda fountain and has never since operated one. Mr. Van Zandt says that people got to expecting such fancy drinks as milk shakes and egg nogs along about that time, and rather than turn the old soda fountain into a light lunch counter, the firm permitted it to pass into oblivion with its good name and fame untarnished by modern-day foibles and gastronomic eccentricities.

THE QUININE BOOMERANG

The profit which the Dutch East Indian quinine interests have made during the last few years, is perhaps the very thing which may eventually "kill the goose that lays the golden eggs." Nothing will induce capital into a field more quickly than the prospect of large profits and with the spread of the cultivation of cinchona in other parts of the world, the Java industry is very likely to find dividends of fifty and one hundred per cent dwindling materially. It may take ten years and it may take twenty, but as sure as the Dutch syndicate, and the English one as well, continue their policy of "getting all they can while the getting is good," other interests will be attracted to the field. Java is apt some day to find herself with worthy competitors in the quinine race.

South America, the original home of cinchona, has never amounted to much as far as producing a a bark suitable for the extraction of quinine. Cinchonidine and cinchonine are the chief alkaloids in this bark with quinine running mostly under one or two per cent. This however, means nothing, for with the introduction of the bark industry into Java not a cinchona tree of any kind grew there, and the industry was developed from transplanted South American trees. In South America the trees are present and it is merely a question of cultivation, as in Java, to bring up the quinine content of the bark and proportionately reduce the other alkaloids.

With the news that a tract of 800,000 acres of land in Peru on the upper tributaries of the Amazon, has been secured by Japanese interests for the purpose of cinchona cultivation and the extraction of quinine at the source, the possibilities of South America as a rival of Java are apparent. The success of Japanese ventures in cinchona in Central and South America will naturally depend greatly upon the policy of the Dutch and British syndicates in coming years as to whether they will take profits "to the hilt" or pursue a policy of low prices as the best means of discouraging competition in other parts of the world. As things are going at the present time, Java interests apparently are doing all in their power to keep quinine and the bark in a position which is likely to foster a widespread development of the South American industry. The Japanese have the capital, the labor and the patience to develop the field, and while the Java syndicates are going blithely on their way, something more of discretion to-day and less of exorbitant profits might be the best kind of insurance for the future.

The Illinois Pharmaceutical Association will hold its convention at Rockford on June 22-24. Among those announced to address the meeting are Major A. V. Dalrymple, Prohibition Enforcement Officer for the district; S. L. Henry, secretary of the N. A. R. D., and Prof. James H. Beal, of Urbana, Ill.

Wood Alcohol and Prohibition*

CHARLES BASKERVILLE, PH.D., F.C.S., Professor of Chemistry of The College of the City of New York and Chairman, Committee on Occupational Diseases in the Chemical Trades of The American Chemical Society

WOOD (methyl) alcohol poisoning is an unique problem in that it involves not alone physiological changes and technical matters having to do with production and distribution of the toxic agent, but sociological factors as well, for it is closely knit to prohibition.

The "adiophorous" spirit obtained by distilling wood (Boyle, 1661) was thought by Taylor (1812) to be a new kind of *ether*, in fact, he called it "pyroligneous æther." Dumas and Peligot (1835) established its resemblance to ethyl (*ether*) alcohol and named it methyl alcohol from the Greek words meaning *mead* and *wood*. In fact you will recall that the word *alcohol*, derived from the Arabic, Al Kohl, at one time meant a fine powder and only later meant spirits.

Commercially the destructive distillation of hard woods (refuse) is the main practical method followed for the production of methyl alcohol in America, although in Europe it has been obtained from peat and as a by-product from vinasse and in the manufacture of wood pulp by a soluble sulphite process. The numerous synthetic methods known at present are too costly to be practised on a commercial scale. The condensed tarry and acid products distilled from wood are subjected to partial purification by distillation at these plants. This crude material, about 80 per cent pure, is then usually shipped to centrally located refineries in tank cars, drums, or barrels for further purification and rectification.

This crude wood alcohol, "Wood Spirit," "wood naptha," a vile-smelling, greenish yellow to dark brown in appearance, nauseous liquid, is a complex mixture containing a variety of impurities, unnecessary to enumerate here. They are removed in the main in the first refining, yielding a product containing about 95 per cent methyl hydroxide. In 1896 processes for greater refinement were put into operation, so that about 1906 a deodorized product (97 to nearly 100 per cent) was placed upon the market in the United States under such names as "Columbian Spirits," "Eagle Spirits," "Hastings Spirits," "Colonial Spirits," "Manhattan Spirits," "Union Spirits," and "Lion d'or;" in Canada as "Greenwood Spirits," and "Standard Wood Spirits;" and in Germany in 1912 as "pro spirit." Technically it was called methyl hydrate, carbinol, methylic alcohol, methyl hydroxide, and methanol. The pure substance is a colorless, mobile liquid, having a pure vinous odor, similar to that of pure ethyl alcohol, and possesses a burning taste.

Legitimate Uses of Methyl Alcohol

The legitimate uses of methyl alcohol may be grouped as follows:

A—for denaturing ethyl alcohol.

B—In the chemical industries; (1) as a solvent (fats, varnishes, moving picture films, etc.); (2) as an extraction agent (explosives); (3) as raw material for production of formaldehyde; (4) in synthetic chemistry for introduction of the methyl (CH_3) group (perfumes, flavors, dyes, etc.); (5) as a reagent in the laboratory.

C—In pharmaceutical and medicinal preparations. (surgical dressings, cattle medicines, etc.)

D—In the arts and crafts (manufacture of incandescent mantles, of hats, furniture, pianos, burial caskets, boats, shoes etc.).

E—Unclassified (fuel, illuminant, cleaning fluid, etc.).

The abuses of methyl alcohol will be referred to below.

Change in Nomenclature Should be Made

No doubt the stress laid upon the matter of nomenclature appears quite trivial; however, there are reasons for emphasizing this phase of the subject, each sufficient unto itself. There is a need for publicity, especially among others than chemists. These facts of names and their meanings of necessity can scarcely be known by all medical and pharmaceutical men. They are even less known to the "man-of-the-street;" but the layman does know that "alcohol" is the stuff which makes drunk come; that it is the stuff that cheers when downhearted; that uncontrolled it has been a curse in the world; that it is the "real thing" in the disguise of beer or light wine, which formerly rested him when the arduous day's work was done. So when he sees the can or vessel with the label "alcohol" on it, and as he knows "alcohol" is the thing that gives the "kick," rest, or cheer, without considering the qualifying words "wood," "methyl," or what not, he is going to take it. He is little deterred by the "poison" label, for he has seen the picture of the snake curling out of the bottle in the pictures of intemperance, and still he drank. Therefore, it shall be the purpose of some influential chemists and powers in the transmission of chemical terms in the English language to see that the word *Alcohol* ceases its present significant use, at least in chemical literature. Technically all alcohols should become known as "-ol" bodies or hydroxides, as "methanol," "ethanol," "propanol," "butanol," etc.; methyl hydroxide, ethyl hydroxide, propyl hydroxide, etc. This movement is already well under way, as producers of ninety per cent of the refined methyl hydroxide in this country have decided that hereafter all packages containing it shall be labelled "methanol," and so their advertisements read in the trade journals this day.

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*Presented to the American Drug Manufacturers' Association, New York, April, 1920.

This change in nomenclature has been recognized, but the usage cannot be brought about instantaneously and will require time. The word will continue as a synonym in any event, although through concerted action it may become more or less obsolete. No form of legislation can eliminate the name. This is an appeal to chemists and druggists to assist.

In 1906, after a vigorous campaign in which many of us chemists participated, the United States followed England, France, Germany, and other European countries by enacting laws permitting the general use of a tax-free domestic alcohol for industrial purposes, and for light, heat, and power.* Such a step was essential that we might keep pace with other countries in the industrial development necessary in the commercial competition of the world. A discussion of the economies of this "example of intelligent and far-seeing fiscal legislation" would be somewhat pertinent, but I fear lead us a little too far afield. Suffice it to say that it has made us a self-contained nation in regard to certain medicinals; ether, ethyl chloride, chloral hydrate, nitrous ether, and numerous synthetics may be mentioned in illustration. To emasculate alcohol, as it were, the law requires that tax-free alcohol for use in the arts and industries shall have first mixed with it (under close supervision) substances which "destroy its character as a beverage or render it unfit for liquid medicinal purposes." To fulfill the intent of the law and to carry into effect the provisions of the act, the conditions and regulations are made by the Commissioner of Internal Revenue with the approval of the Secretary of the Treasury. On account of its poisonous properties, difficulty of removal from the resulting industrial alcohol, non-interference with many of the industrial purposes for which the denatured product was intended, and a desire to avoid the destruction of the methyl alcohol business for methyl alcohol was cheap at that time, the first act designated it as a denaturant and the Commissioner of Internal Revenue selected it as the principal one.

Use as a Denaturant

Up to date some forty-one formulas for "specially denatured alcohol," to be used for designated purposes only, have been authorized under the several acts. Five formulas for "completely denatured alcohol," which may be used for light, heat, and power, have been authorized One of each of these has been revoked.

The control of the former class (special) is so complete, involving as it does the moral character of the users, that little danger attends its use. One formula (No. 30) allows the addition of as much as 10 per cent of the purest methyl hydroxide, but its use is restricted to general chemical and physical laboratory purposes.†

The latter class (complete denatured) promises some needed relief for the liquid fuel shortage and may consume much the largest portion of denatured alcohol. That means denatured alcohol will become even more common than it is now.

Data collected prior to 1918 indicated that the drinking of liquids containing methyl hydroxide was responsible for many deaths and acute cases of blindness. The "deodorized" methanol resembles pure ethanol so closely, that the ordinary layman can hardly distinguish the difference between the two. In complex mixtures, whiskey, etc., its detection involves very careful chemical analysis. Formerly it cost less than ethanol, so unscrupulous people were tempted to use it as substitute for ethanol in adulterating whiskey, essences, extracts, bitters, washes, liniments, balsams, perfumes, etc. The victims were generally those who indulged in the commoner forms of whiskey, rum, and wine, although persons not addicted to the use of intoxicating drinks were undoubtedly often innocently affected from drinking Jamaica ginger, lemon extract, essences, bitters, medicines, etc., whose chief menstruum was "deodorized" wood alcohol. At one time the poorer negroes in the Southwest drank it under the name of "white horse" or "old mule." The price at which it sells now will reduce that danger to a minimum.

Happily the abuses grew less through the operation of the National Pure Food and Drugs Act of June, 1906. However, during the penumbra of prohibition many cases of blindness and death occurred, as stated in other papers, through the drinking of wood alcohol or denatured alcohol.

The "completely denatured alcohol" is the more readily obtainable. Formula No. 1 called for 10 per cent of specified commercial methyl alcohol with one-half of one per cent of approved benzine. This has been, and is, used in radiator water of motor vehicles to make a non-freezing mixture. This may account in part for the cases traced to garages. After the outbreak referred to, this formula was revoked December 29th last, appearing in orders issued January 3, 1920. Hereafter no completely denatured alcohol containing more than 2 per cent methanol will be allowed. As alcohol of strengths above 80 per cent require dilution before drinking, it is doubtful if any future acute cases may be attributed to denatured alcohol, that is after the present outstanding stocks under Formula No. 1 are used up.

Productive of Defective Vision

However, we cannot be so hopeful in regard to chronic cases accumulating in blindness or defective vision which may be attributed to drinking diluted denatured alcohol containing methanol. The denaturing deterrents are selected primarily on account of the nauseous odor and repulsive taste, rather than physiological action. These odors and tastes repel some people as do the fragrant emanations of a pigpen, or the seductive waters of a sulphur spring, yet other people accustom themselves to the atmosphere of the piggery; still others through medical advice pay big money to drink sulphur waters. "Rot gut" whiskies and some

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*In England these two classes are designated "Mineralized" and "Industrial Methylated Spirit."

†Act of Congress, June 7, 1906; amended March 2, 1907; Act, October 3, 1913.

"mountain dews" are not far behind varieties of denatured alcohol in odor and taste. With added flavoring, denatured alcohol containing 2 per cent of methanol may be diluted until it contains 1 per cent or less methyl hydroxide and be drunk. Death is not to be expected, immediate nor early blindness, from such a draught. And therein lies the danger, so apparent to all who are familiar with the cumulative action of drugs and the insidious influence of liquor.

Proper doses of paraldehyde produce effects associated with ethyl alcohol. I have heard, but it has not been authoritatively supported, that not a little paraldehyde was shipped to Russia from another country (not the United States) to serve as a substitute for vodka. We are familiar with the historic accounts of ether sprees indulged in by the Irish and "Picadilly Willies" and recent medical literature tells of the successful use of oil-ether cocktails prior to dressings of seriously wounded soldiers. So a variety of intoxicants and exhilarating soporifics are actually available, but their names and associations are those of *drugs*, hence their use is not common. If we can but divorce the name and promote the recognition that these "-ol" bodies are in fact drugs and dangerous, liable to produce blindness, the very element of fear alone will have a most salutary effect in protecting men and women from themselves. Undoubtedly the recent publicity given the causes of the deaths from wood alcohol in the metropolitan district has materially assisted in maintaining sobriety during the past two months. In other words, wise education of all the people can in my opinion prove to be the only solution of the problem.

Methyl Hydroxide a Fermentation Product

In this connection allow me to submit a few other thoughts in bringing my remarks to a close. Some people who talk about wood alcohol and its associated evils very nicely reply to the query, "What is it?", by saying, "It is obtained from wood." When asked the source of the "other" alcohol, the alcohol of beverages, tinctures, medicines, etc., they reply that it is a product of fermentation. I need scarcely to remind you of the fact that methyl hydroxide is a product of fermentation also, especially if the *Bacillus caproicus*, or certain wild yeasts, be present when the juice of sugar cane is fermented. It or ethyl formate is a normal constituent of rum.

In the fermentation of sugary or starchy materials for the production of "grain" alcohol the utmost care must be exercised to guard against these wild yeasts. Certain of these wild yeasts may be domesticated, as it were, and caused to bring about their own specific transformation in these carbohydrates to produce special bodies. For example, by birth control of yeasts these self-same carbohydrates have been made to produce acetone and butyl alcohol from the same raw materials from which "grain" alcohol was made.*

Granulobacter saccharobutyricum, presumably identical with Fitz's Bacillus butylicus. Produces butyl alcohol from glucose and with some difficulty from maltose.

Granulobacter polymyxa, frequently found in cereal grains. Produces traces of butyl alcohol.

Fernbach's culture, produces butyl alcohol and acetone from grain and potatoe mashes.

B. violarius acetonicus, produces ethyl alcohol, acetone, etc., when grown on saccharose peptone media

These liquids proved to be of immense value in the manufacture of high explosives during the War and may serve as one of the valuable initial products in the production of the synthetic rubber of the future.

One of the products of normal fermentation is amyl alcohol. In the distillation of beers and wines to produce distilled liquors, as whiskey, brandy, and gin, this amyl alcohol is concentrated, being then called "fusel oil." The purpose of the process of rectification in the manufacture of the better grades of distilled liquors and ethyl alcohol was, and is, to eliminate, or reduce the content of this "fusel oil," the alleged primary cause of the old, and somewhat reminiscently familiar, *Katzenjammer*.

Grain Alcohol not a Definitive Term

"Grain" alcohol has long since ceased to be a definitive term. When rectified, it is ethyl hydroxide, ethanol, the same as obtained from distillation and rectification of any saccharose or starchy material, which has undergone the quondam "alcoholic fermentation." As a sequel of President Taft's famous "What is whiskey?" definition, however, it required a decision of the highest courts to show that ethyl alcohol obtained by fermenting molasses was the same as that obtained from beer made from grain.

Ethyl alcohol, ethanol, ethyl hydroxide is prepared in quantity by fermenting, under regulated conditions, ordinary sugar (beet, cane, maple, etc.), starch (grain, potato, rice, etc.) and cellulosic material. They will not ferment when pure, but require conversion, or inversion, into fermentable substances first. I remember as a student thirty years ago, inverting, fermenting, and distilling an old night shirt, spiking a synthetic lemonade with the product obtained therefrom for a laboratory frolic.

Alcohol from Cellulose

As is well known, the foundation of wood is cellulose. Paper pulp, especially book stock, is essentially cellulose. Sawdust and lumber scrap make up one of our greatest national wastes Ethanol is a very valuable solvent, fuel, and chemical. By purifying the cellulose from these sources, inversion, fermentation, etc., some 300,000 gallons of ethyl alcohol were made per month in this country during the War. The output will no doubt be greatly increased. This was the regular alcohol of "likker" variety, made from wood, but it was not "wood" alcohol.

Recently propyl alcohol, propyl hydroxide, propanol, has been made on a semi-commercial scale from petroleum products It is an excellent solvent and acts very much like ethanol in stimulating and bringing on those conditions in animals we associate with the influence of liquor I mention these

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**Granulobacter butylicum*, presumably identical with Gruber's Bacillus amylebacter I.

facts because, in my opinion, they serve to show the complexity of the problem and the need for keeping our heads upon our shoulders in seeking a salutary, sane solution.

ENGLISH DRIED-FLOWERS INDUSTRY

In consequence of the shortage during the war of medicinal herbs, an association of women in Suffolk started the systematic collection of such plants. From 1916 to 1918 belladonna, henbane, and foxglove were the chief herbs handled. Last year the demand for these fell off, but in their place arose a request for sweet-smelling herbs and flowers, and it is reported that during the current year collections thereof for the perfumery trade are being organized throughout the county of Suffolk. The new scheme is under the supervision of women botanical experts. It is stated that this rural industry has already resulted in considerable pecuniary benefit to East Anglian villagers, who have been instructed in the proper method of collecting. During the current month the picking of fresh heads of cowslips commences, cowslips being used for sachets and potpourri as well as a cure for sleeplessness; broom and elder flowers will follow and many others.

A mill at Blackenham purchases the collections and prepares them for the market. The prices per pound at the mill for such dried flowers are: Cowslips (heads only), 2 cents; broom flowers, 8 cents; elder—heads, 1 cent, with florets picked off, 5 cents; lime, 6 cents; mullein and mallow, 8 cents; bergamot (flowers without calyx), 12 cents; lavender—on stalks, 12 cents, rubbed off stalks, 61 cents; dark-red peony petals, 10 cents; dark-red rose petals, 6 cents; red field poppy petals, 8 cents; mullein leaves, 2 cents; raspberry leaves, 1 cent; sage, mint, balm, agrimony, and woodruff (whole herbs), 2 cents. Thyme brings 36 cents per 14 pounds (*Consular Reports*).

EXPORTS OF BERGAMOT FROM SICILY

Among the minor items in Italy's list of exports an important place may be assigned to essence of bergamot. Exports of this product for the first five months of 1919 surpassed in value the shipments for either 1917 or 1918. In the period named 77,088 kilos (kilo=2.2 pounds) were exported, at an estimated value of 5,781,600 lire (lira=$0.193 at par of exchange). Of this amount France took just about one-half (38,058 kilos), with the United States next in order (15,432 kilos), Great Britain third (14,878 kilos).

Italy's supply of essence of bergamot is derived from the island of Sicily. The plant belongs to the rue family, and the product of the distillation of the roots of this plant is known as essence of bergamot. The Italian Government has been at great pains to protect the industry by keeping this Sicilian product up to certain specific standards. The Sicilian peasant is at perfect liberty to distill bergamot root as he pleases, but the product can not be put upon the market until it has been brought to the Government laboratory at Messina and analyzed and graded. It is then placed in copper receptacles and sealed by Government officials to prevent adulteration. While the stuff is not sold by the Government, it is sold under Government inspection. Essence of bergamot forms the base of many proprietary perfumes, and the demand for this Sicilian product is steadily increasing. It is said that essence of bergamot in former times found its way to the American market through French and British intermediaries. That is no longer true. American agents are not only to be found in Sicily as purchasers of the distilled product after it has passed Government inspection, but they also go to the original peasant producer and buy options on the crops some months in advance of the period of actual distillation.

FASHION IN THERAPY

"The medical profession," says the *Lancet* in an editorial article under the above heading, "is no more immune than any other section of the population to the influence of fashion, and this is to be expected, for medicine is not an exact science, while every trial along unexplored paths may lead to fortunate issue. When a therapeutic measure is employed for a series of years, and then is dropped suddenly, the explanation is that at last, and by common consent, it is recognized that that particular path is leading nowhere." Leeches are still to be found in a good many pharmacies (or were before the war). Referring to the change of fashion undergone in this instance, the *Lancet* says, that in 1832 21,000 leeches were used in St. George's hospital, and at St. Bartholomew's 97.300. How many are employed to-day? "But there remain wise physicians who employ this simple and effective method of controlling inflammation."

It is truthfully remarked by the writer that "the popularity of drugs with the members of the medical profession also varies greatly; it is due to the blind following of fashion that the use of drugs fell into disrepute, whence the efforts of learned pharmacologists, like the late Thomas Fraser, have begun to rescue them. Sarsaparilla, especially in the form of compound decoction. at one time had an enormous reputation. No small number of surgeons considered that it was as valuable in the treatment of syphilis as mercury itself. Sarsaparilla is now more appreciated by the customers of the herbalist than by anyone else. Yet the drug cannot be utterly without therapeutic value, even if it was formerly rated too high. Being quite unable to live up to its entire claims, it has lost credit completely, and its neglect may be an error. Arsenic, one of our most valuable pharmaceutical weapons, has been affected strangely by the passage of time, for while its real uses escaped knowledge, its possible uses were grossly exaggerated by repititionary laudation. In the latter half of the eighteenth century it was in great repute for the treatment of malaria. Early in the nineteenth century it began to be used widely for the treatment of skin diseases, and the idea has been firmly implanted in the public mind that there are two infallible drugs for the treatment of affections of the skin—sulphur externally and arsenic internally. A reaction has long since set in, and the use by dermatologists has diminished. But there remain, perhaps, as many who. having had great experience in this department of practice, value the drug highly, and maintain that it is of excellent result if properly given. While the medicinal preparations of arsenic are thus losing hold, the organic arsenic compounds are becoming our routine weapons against syphilis"—(*Pharm. Journ.*).

THE QUESTION BOX

The "How to Do It" Department

Conducted by Pharmaceutical Experts

For the benefit of ERA Subscribers

Some German Terms

(B. S. P.)—"An old German recipe was submitted to us containing the following ingredients: 'Bleiweiss, silbergley, gallenstein.' Will you kindly inform us what these ingredients are?"

Unfortunately you do not tell us the names of all of the substances called for in the recipe, nor the character or intended use of the remedy when compounded, information that would undoubtedly tend to throw some light on the meaning of such terms as "silbergley" and "gallenstein."

However, "bleiweiss" is the German name for lead carbonate or white lead. The identification of "silbergley" is not so easy, although the word may be a misspelling of "silberglatte," a German synonym for light or yellowish-colored litharge or lead oxide. This interpretation is suggested by the fact that we do not find the word "silbergley" in any of a number of German reference works, dictionaries or lists of technical synonyms we have consulted, but we do find formulas for combinations of lead carbonate and litharge in ointment form in some of the older German formularies. Unless the word be coined it would appear that the suffix "gley" can scarcely be of German usage, as "y" rarely appears in that language unless it be in German words derived from the Greek. "Gallenstein" is German for "gallstone" or "biliary calculus," and is so defined in German medical dictionaries, but just how such a substance could be used in a recipe to be compounded is beyond our knowledge. It may be that galls (German *gallen*) is intended, for it is possible to incorporate an astringent of this character in an ointment of salve containing the other substances named. These are only suggestions, but further information is needed to positively identify the last two substances.

Straw Hat Cleaner

(C. W. F.)—A so-called "non-poisonous" straw hat cleaner, put up in waxed paper and sold by street venders and others in small packets as a "bleacher and cleanser," is tartaric acid, the quantity employed being about 2 drams. This is dissolved in about half an ounce of water and applied with a toothbrush; when clean, rinse the hat off with warm water and put aside to dry.

(2)

Sodium bisulphite, 10 drams; tartaric acid, 2 drams; borax, 10 drams. Mix. Moisten a small quantity of the powder with water and apply the mixture with a brush.

Here are two additional formulas for "packet" straw hat cleaners which are said to be very effective when used, but both preparations contain poisonous substances (oxalic acid and potassium binoxalate, the latter being commercially known as "salts of lemon").

(3)

Oxalic acid	1 part
Cream of tartar	5 parts

Powder fine, mix, and use as in the preceding formula.

(4)

Potassium binoxalate	10 parts
Borax	1 part

Mix and use as directed in the preceding. In labelling the preparations made by either of these formulas attention should be called to their poisonous character.

For cleaning panama or straw hats as practiced by professionals, see February 1920 Era, page 46.

Sewing Machine Oil

(D. D. Co.)—It is stated on good authority that petroleum oils are better adapted for the lubrication of sewing machines than any of the animal oils. Sperm oil for a long time has been considered the standard lubricant for this purpose, but it is claimed by experts that it is not adapted for the conditions to which a sewing machine is subjected. If the machine were operated constantly or regularly every day, sperm oil probably could not be improved upon, but the difficulty is that the family sewing machine is frequently allowed to stand untouched for weeks at a time, and is then expected to run as smoothly as though just oiled. Under this kind of treatment almost any oil other than petroleum will become gummy. What is known in the trade as a "neutral" oil of high viscosity, will probably answer the purpose better than anything else. A mixture of 1 part petroleum and 7 parts of paraffin oil has also been recommended. Here are some other formulas taken from our files:

(1)

Pale oil of almonds	9 ounces
Rectified benzoline	3 ounces
Foreign oil of lavender	1 ounce

(2)

Pure lard oil	1 part
Sperm oil	1 part
Kerosene oil	3 parts

(3)

In a white bottle filled with pure almond oil or olive oil, place a clean strip or coil of lead and expose to the sun for some time, or until the curdy matter ceases to be deposited and the oil has become white, limpid and colorless.

Lard Substitute for Ointment Base

(C. A. R.)—While probably no other substance will take the place of purified lard as an ointment base, yet during the World War there were a number of formulas proposed as lard "substitutes" for use in preparing ointments.

Two of these formulas from German sources are here given;

(1)

To replace lard make a mixture by melting 380 grams of yellow petrolatum, and then add to the molten mass 370 grams of a 5 per cent gelatin solution. After standing two or three days the mixture is of an ointment-like consistency.

(2)

Koester suggests a mixture of 120 grams of Japan wax, 210 grams of petrolatum and 1000 grams of liquid petrolatum. This mixture is melted and then stirred until cold. It may be used as a basis for zinc salve, ointment of potassium iodide and other salves.

Percentage of Alcohol in Official Preparations

(H. H. B.)—The percentages printed on the labels submitted are correct as may be ascertained by reference not only to Professor Stevens' figures as given in the Era Dose Book, but to the Pharmacopoeia, page 593, where identical figures are given, the preparations you name being among the very few for which the Pharmacopoeia does give the percentages of alcoholic content. In this connection it can be stated that the alcoholic strength of any preparation rarely conforms to the exact figures theoretical considerations would indicate. In fact, the exact percentage can be ascertained only by careful analysis, which percentage, if one wishes to be exact, holds good at the time the analysis is made. It is for this reason that the Pharmacopoeia permits a tolerance of ten per cent more or ten per cent less than the figures given. This tolerance is allowed on the ground that alcoholic preparations are made from drugs containing varying proportions of moisture, extractive, etc., and the unavoidable loss of alcohol through evaporation during the process of manufacture, storage of the preparation, etc.

That the average alcoholic content of aromatic spirit of ammonia is approximately 68 per cent is shown by the fact that the official formula for this preparation requires 700 mils of alcohol to make 1,000 mils of finished product. The specific gravity of the alcohol given by the U. S. P. at 25° C. is 0.810, which makes the weight of the alcohol used (700 x 0.810) 567 grams. Reference to the formula for aromatic spirit of ammonia shows the specific gravity of the finished product to be 0.900. Then the 1,000 mils should weigh (1,000 x 0.900) 900 grams, of which 567 grams will be absolute alcohol, equivalent to 63 per cent by weight of the whole. Referring to any standard alcohol tables it is found that 63 per cent by weight of alcohol is equivalent to about 70.5 per cent by volume. Owing to the loss by evaporation in the process of manufacture, the finished preparation rarely reaches this content, so the Pharmacopoeia rounds the figures off at 68 per cent by volume.

An explanation of the theoretical alcoholic content of tincture of iodine is not so easily demonstrated, because the specific gravity of the finished product is not given, nor do we know the exact volume the iodine and potassium iodide called for in the formula will occupy when they are dissolved in the water and alcohol employed. However, on the assumption that these substances would not represent more than 125 mils of the volume, the finished product should contain (1,000 — 125) 875 mils of alcohol, equal to about 87.5 per cent of the whole. As the alcohol employed is only 94.9 per cent (by volume) absolute alcohol, the finished product would represent (87.5 x 94.9) 83.0375 per cent of absolute alcohol, a figure which is very close to that given in the Era Dose Book and the Pharmacopeia, viz., 83 per cent.

Hand Cleaner for Mechanics

(Motorist)—Try one of the following formulas:

(1)

Ivory soap, 750 grams; sodium carbonate, 20 grams; hot water, 120 mils; reduce the soap to fine shavings, and add to the hot water in which the sodium carbonate has been dissolved. Then add, powdered pumice stone, 200 grams; powdered talc, 50 grams; oil of sassafras, 1 mil. Mix thoroughly.

(2)

Powdered soap, 7 ounces; waterglass, 2 ounces; pumice stone, powdered, 1 ounce; kaolin, 10 ounces. Make into a paste.

(3)

Soft soap, 3 ounces; oil of turpentine, 1 pint. Melt the soft soap in an evaporating dish, remove from the fire, and add the the oil of turpentine, little by little, with constant stirring. For use, a little is rubbed on the hands, then removed with warm water. Glycerin can be added if desired.

Fireproofing Cotton Goods

(B. & T.)—In the absence of any information of the character or use of the cotton goods which you wish to treat with a fireproofing solution we are unable to state the particular application most likely to best answer your purpose. However, here are several formulas we take from our files:

(1)

Ammonium sulphate, pure	8 pounds
Ammonium carbonate	2½ pounds
Boracic acid	3 pounds
Starch	2 pounds
Borax, pure	1 1-10 pounds
Water	100 pounds

Steep the fabrics in a hot solution of the above until thoroughly impregnated, after which the fabrics are drained and dried sufficiently to enable them to be ironed or pressed like ordinary starched goods.

(2)

Dissolve aluminum sulphate in cold water, to which add a solution of ammonium phosphate as long as a precipitate is produced; finally add sufficient sal ammoniac solution until the precipitate is redissolved. The fabric is impregnated with this solution.

(3)

Sodium tungstate	16 ounces
Water	30 fl. ounces

Dissolve in the cold, and add—

Sodium phosphate	2½ drams
Water	20 fl. ounces

or enough water to make the solution sp. gr. 1.14.

Sodium tungstate is said to be an excellent fireproofing material, as it possesses the peculiar quality of adhering to the fibre, making it difficult to wash out after the fabric has been steeped in the solution. On the other hand, it is quite expensive, so that ammonium salts are most frequently used, and are said to be almost as efficacious. For fabrics that are to be starched, a simple method consists in incorporating a salt that possesses fireproofing properties with the starch. The salt is dissolved in the water required for the starch, in which the fabric is steeped, which permits the compound to pass into the fibres. The fabric is then ironed in the usual manner. A formula of this character is the following: Ammonium sulphate, 80 pounds; ammonium chloride, 25 pounds; boric acid, 30 pounds; borax, 17½ pounds; starch, 20 pounds; water, 100 gallons. This formula is somewhat similar to the first one given above.

The Progress of Pharmacy

Colloids in Pharmacy—

J. Ward, B.Sc., in a paper read before the Western Pharmacists' Association (London) recently, instanced gelatin as a true colloid, in that it forms a clear solution, and can, after evaporation to dryness, be redissolved. A colloid in water occupies an intermediate position between solution and precipitation. "Brownian movement" is characteristic of all colloidal solutions. The kinetic force of the liquid is greater than the force of gravity, hence movement and not precipitation. A colloidal solution is more active than a molecular one, and if injected, is slowly absorbed, whereas a molecular solution is quickly absorbed and eliminated. A single drop of a colloidal solution may contain one thousand million particles. Liniment of potassium iodide, with soap, was named as an example of colloidal chemistry in pharmacy; hence soap forms a colloidal solution, the potassium iodide acting as an electrolyte. Containers made of neutral glass in which to dispense colloidal solutions are desirable.—(*Pharm. J.*)

Early History of Alcohol—

The early history of alcohol shows that alcoholic beverages in one form or another were known in the earliest days of civilization. The Chinese of a very remote period were acquainted with the process of distillation, and it is probable that they obtained alcohol from wine by distilling the latter. It is mentioned that arrack, a distillate of toddy, was prepared in India at least eight hundred years before the Christian era, and in Ceylon from "time immemorial." Arrack is still an esteemed liqueur in most eastern lands, and seems to be particularly favored by the Syrians. The Japanese in very ancient times distilled *Sochu* from the drink known as *Sake*, a beverage obtained by fermenting rice. In Europe the discovery that wine or other fermented liquor would yield a "spirit" when distilled came much later, and certainly does not date back a thousand years In the middle ages distilling was practiced in the English monasteries, and alcohol was held in high repute as a stimulant and curative agent in disease. Arrack was first brought to England in the fifteenth century, and the occasion marks the first authentic mention of spirit imports into that country.—(*Ind. and East. Dr.*)

Detection of Free and Combined Citric Acid—

Broeksmit determines citric acid in acetic acid solution by oxidation with permanganate and formation of iodoform. Potassium acetate added to an alcoholic solution gives a clear solution with citric acid, but a precipitate with tartaric acid. Barium acetate precipitates citric acid from alcoholic solution. These reactions are utilized for the detection of citric acid in fruit juices and milk, and compounds of citric acid—(*Pharm. Weekblad*).

Comparison of Local Anesthetics—

The benzoyl derivatives of a number of aminoalcohols of the formulas $(CH_3)_2N.CH_2.CR(OH).CH_3$ and $(CH_3)_2$-$N.CH_2CH_2CH(OH)R$, were examined in respect to their toxicity, their haemolytic action on red blood corpuscles, and their anesthetic properties. Of the first series, to which stovaine belongs, the benzoyl derivatives of 2-methyl-, 2-ethyl-, 2-amyl-, 2-phenyl-, and 2-benzyl-propanol were investigated, and of the second series the derivatives of 3-ethyl- and 3-amyl-propanol. The derivatives of the second series were less toxic than those of the first, while those of the alcohol containing five carbon atoms were the most poisonous. Of the aromatic derivatives the benzyl-propanol derivatives were more toxic than the corresponding phenyl compounds. The haemolytic action on red blood corpuscles increased with increasing molecular weight; it appeared also to increase with increasing separation of the hydroxyl and amino groups. The anesthetic action of the tertiary alcohols is superior to that of the secondary, and the maximum is attained with C_5 alcohols.—(*J. Soc. Chem. Ind.*)

Magma Magnesiae—

Bertha Mueller recommends that dried magnesium sulphate be used in place of magnesium carbonate in the preparation of the official milk of magnesia and submits the following formula;

Magnesium sulphate, dried...........	270 grams
Sodium hydroxide	120 grams
Distilled water to make.............	1000 mils

Dissolve the dried magnesium sulphate in enough water to make 750 mils, and the sodium hydroxide in enough water to make 250 mils; filter both solutions. Then gradually and with constant stirring, pour the sodium hydroxide solution into the magnesium sulphate solution. Mix thoroughly, and add sufficient water by decantation until the supernatant liquid is tasteless. Then allow the magma to subside to the required volume and preserve according to the U. S. P. directions. Magnesium sulphate is preferred to magnesium carbonate because it is soluble in water, and thus can be freed from mechanical impurities by filtration, while the resulting magma requires much less washing, as sodium sulphate is more easily washed out than sodium carbonate.—(*J. Am. Pharm. Assoc.*)

Standardization of Fluidextract of Ginger—

Standardization of fluidextract of ginger by the following method, used with excellent results in the Mulford laboratories, is recommended by Geo. E. Ewe; Sample 15 mils, place on 10 grams of oak-sawdust contained in a 6-inch evaporating dish, mix well and allow to dry spontaneously for about 6 hours or until the odor of alcohol is eliminated. Place the impregnated sawdust in a bottle; add 10 mils of ether. Shake for four hours. Filter off an aliquot of 50 mils; place the aliquot in a tared 250-mil beaker. Allow the ether to evaporate on the steam-bath and dry at 110° C. to constant weight. Correct the weight of non-volatile ether extract by subtracting that found in the oak-sawdust by a blank determination. The blank determination should be made on a large lot of oak-sawdust and the assayed oak-sawdust then reserved for this assay. Commenting on the standard, Mr. Ewe states, that all of the fluidextracts his company has made have been found to range between 2.00 and 3.2 grams non-volatile extract soluble in ether, but the standard for the fluidextract should correspond to that of the drug so that the most suitable standard would be not less than 2 grams per 1000 mils. Standardization is desirable for purposes of uniformity of commercial preparations.—(*J Am. Pharm. Assoc.*)

Reaction Between Urea and Hypobromite—

Lescoeur finds that in the reaction between urea and alkaline hypobromite solution there is always a deficiency in the amount of urea found, whether this be calculated from the volume of nitrogen liberated, the carbon dioxide formed, or the hypobromite used in the reaction. Lescoeur states that the theoretical yield is never obtained, and is of the opinion that the loss is due to the conversion of a small portion of the urea into sodium cyanate.—(*J. Pharm. Chim.*)

Algin and Alginates—

Algin, obtained from brown algae, particularly Laminaria, when thoroughly dried, contains about 60 per cent of organic matter. A new method proposed for the preparation of algin consists in first drying the algae in a closed apparatus, which permits the recovery of the volatile products. Toward the end of the operation the mineral salts effloresce to the surface but are not completely separated. The resulting mass is extracted with dilute acid containing an oxidizing agent, the latter liberating the iodine and bromine which are combined with the organic matter, while the acid prevents the solution of the algin. The remaining salts dissolve through the cell walls and are dissolved together with those that have effloresced. The crude algin which remains does not have to be purified for adhesive uses. It dissolves in alkalies, e. g., 12 per cent of its weight of anhydrous sodium carbonate, to very viscous and mucilaginous solutions. These may be used as adhesives, mordants, size for cloth, binders for fuel briquets, waterproofing agents, and boiler compounds. Artificial silk made from soluble alginates is more like natural silk than that made from cellulose. Products resembling caoutchouc and gutta percha may be prepared by dissolving shellac or rosin in alkaline alginates and then precipitating with acid. Purified algin may be used as a food if the bromine and iodine are completely removed. Or part of the iodine present as an organic compound may be left in, and this algin be used in place of cod liver oil with even better results—(*Chem. Abstracts*).

Discovery of Phosphorus—

Evidence shows that Brand is the sole discoverer of phosphorus, and Johann Kunckel's claim to independent discovery is unfounded. It was disputed by Liebnitz, to whom the rapid spread of the knowledge and Brand's method of preparation is due. The discovery was made in 1669. Its use for practical purposes was at first hindered by its high cost. This was greatly reduced about a hundred years later, when phosphorus was prepared from bone ash by Gahn and Scheele. The first phosphorus matches, the so-called Turin candles, were introduced commercially at the end of the eighteenth century. At the beginning of the nineteenth century the first phosphorus and sulphur matches were made on a small scale, but the actual considerable production of phosphorus matches dates from 1833.—(*J. Chem. Soc.* through *Pharm. J.*)

Plants Sensitive to Drugs—

Sir Jagadis Bose, distinguished Indian scientist, in a lecture before the Royal Society of Medicine recently, asserted that the relations between plant and animal life were much closer than is generally believed, and suggested that a solution of some of the intricate problems of animal life might be found in the study of corresponding conditions in vegetable life. Some months back considerable interest was evinced in the lecturer's invention of the magnetic crescograph, an instrument which records the reaction of a plant to every shock and stimulus it receives. The crescograph shows the plant's response to alcoholic stimulation and records the interesting fact that the plant's system shows the identical reactions to various drugs that are exhibited by the animal system. The lecturer claimed that the crescograph records the growth of plants, and that by its agency in finding out what would stimulate and what would retard the growth of plant life, it would be possible to control the world's food stuffs. He also said that he had been able to localize the sense organ in plants by the device of an electric probe. When the stem of a plant was in its normal vertical position there was no irritation or excitement, but if the stem was placed in a horizontal position there was a distinct focus of irritation.—(*Pharm. J.*)

Action of Ether on Metallic Mercury—

D. B. Dott finds that pure ether has no action on mercury, while ether, which indicates peroxide, invariably reacts, causing formation of a dark-colored film, and resulting in the formation of minute globules mixed with a grey powder, when the metal and ether are shaken together. When ether containing much peroxide (the so-called ozonic ether) is employed, not only is the grey powder formed, but also a certain amount of yellow mercuric oxide. There can be little doubt that the value of ether in aiding the complete mixing of the mercury with the chalk in making "grey powder" is due to the presence of an oxidizing impurity in the ether usually employed, and it would obviously be very inadvisable to indefinitely increase the proportion of oxide by the use of ether containing an unknown percentage of peroxide.—(*Br. & Col. Dr.*)

Compound Solution of Cresol—

To overcome the tedious process of making soap from linseed oil and to save time, S. L. Hilton recommends that compound solution of cresol be made extemporaneously, as follows:

Cresol	500 grams
Oleic acid	226 grams
Sodium hydroxide	35 grams
Water, enough to make..............	1000 mils

Weigh the oleic acid in a tared flask or bottle and add the cresol, mix well, then add the sodium hydroxide previously dissolved in 100 mils of water, shake thoroughly and add water to make 1000 mils. It is stated that this process is much simpler than the official method, is less expensive and makes a much better preparation.—(*J. Am. Pharm. Assoc.*)

Changes in Saccharin-Bicarbonate Tablets—

Bryer reports that an examination of a series of tablets of sodium bicarbonate tablets with saccharin of uniform quality showed among other things loss of carbon dioxide (0.26-7.7%) when stored for periods varying from 24 days to 12 months; likewise a diminution in the quantity of free saccharin from 10.60% (content after 3 months) to 0.77% at the end of 12 months. It appears that a certain quantity of sodium saccharinate is formed even in the mixing and tabletting, since 8.67% of this product was found to be present at the expiration of 3 months, the percentage increasing to 18.45 at the end of 12 months when stored in carton containers—(*Chem. Ztg.* through *Chem. Abstracts*).

Sterilizing Camphorated Oil—

Cabannes proposes a new method for sterilizing camphorated oil which he claims overcomes the objections made against the usual method of preparation. He proceeds as follows; From a supply of olive oil which has been previously purified by shaking it with 95 per cent alcohol and then preserved under a layer of alcohol, the required amount is taken and poured into a long-neck flask which is heated on the water bath until all the alcohol is driven off. The oil is cooled to 40° C., and the camphor, previously dissolved in a small quantity of alcohol, added.

New Method of Preparing Benzoic Acid—

V. Coblentz and H. W. Walker have secured letters patent (U. S. 1,332,028, February 24) on a process for the preparation of benzoic acid from toluene, which comprises stratifying toluene with between 20 and 43 per cent nitric acid at a temperature somewhat below the boiling point of toluene and allowing the acid and toluene to remain in contact until the reaction is substantially complete. Escaping vapors are condensed and returned to the materials undergoing reaction.—(*U. S. Potent Office Gazette*)

A.Ph.A. Meeting Held in Washington

Pledges Best Efforts to Secure Prerequisite Laws—Membership Now Approaching 5,000 Mark—New Orleans Selected for 1921 Convention

REPRESENTATIVES of practically every interest in pharmacy were present in large numbers at the 69th annual meeting of the American Pharmaceutical Association held in Washington, D. C., early last month. While some of those present were in attendance by the fact that they could also see some of the attractions of the Nation's Capital City, the larger number, judged by the interest taken in the meetings, attended because they realized that their organization had much to offer that would be to them worth while. In this they were not disappointed, for in the amount of important work accomplished, this meeting will be comparable to any that have been held in the past. As an additional inducement, many of the members could also attend the meetings of the National Association of Boards of Pharmacy and the American Conference of Faculties which were held during the same week, while those who were delegates to the United States Pharmacopoeial Convention could, by protracting their stay a few days longer, attend the meeting which marked the Centenary of that organization. Nearly 400 delegates were present.

Nominees for Officers of A.Ph.A., 1921–2

Following is a list of nominees for the various offices of the Association reported by the Committee on Nominations, and which is to be submitted to the entire membership, the election to be held within the next three months;

Nominees for president; Henry Kraemer, Ann Arbor, Mich.; Charles W. Johnson, Seattle, Wash.; Samuel L. Hilton, Washington, D. C.

Nominees for 1st vice-president; Frank Schachleiter, Little Rock, Ark.; Charles E. Caspari, St. Louis, Mo.; Wilber J. Teeters, Iowa City, Iowa.

Nominees for 2nd vice-president, C. E. Anding, Flora, Miss.; D. F. Jones, Watertown, S. D.; E. H. Cox, Atlanta, Ga.

Nominees for 3rd vice-president; Hugo H. Schaefer, New York City; W. H. Ziegler, Charleston, S. C.; W. R. Jarrett, Oklahoma City, Okla.

Nominees for Members of the Council; Henry M. Whelpley, St. Louis, Mo.; George M. Beringer Camden, N. J.; J. G. Godding, Boston, Mass.; Charles B. Jordan, Lafayette, Ind.; Edward Spease, Cleveland, Ohio.

The "key note' of the A.Ph.A. meeting was "pre-requisite legislation," a subject that was emphasized in President Sayre's address, as also in the discussions in the meetings of the Association of Boards and the Conference of Pharmaceutical Faculties. Notable addresses were delivered by various Government officials. among them being Federal Prohibition Commissioner Kramer, who told the association that prohibition was here to stay; Dr. C. E. McClung, of the Medical Division of the National Research Council, who emphasized the importance of the work which the National Council had undertaken; and Surgeon General Braisted of the United States Navy, who spoke on the future of pharmacists in the Navy.

Nominees for Presidency of the A.Ph.A.—Henry Kraemer, Ann Arbor, Mich.; Charles W. Johnson, Seattle, Wash.; and Samuel L. Hilton, Washington, D. C.

In his address, President Sayre touched upon the subjects of schools of pharmacy, the apprentice system, the cultivation of medicinal plants, research work, prohibition, the U. S. P. and N. F., and war veterans. He stated that more than 2,100 army and navy pharmacists, who served in the World War, had been added to the roll of membership, since the last annual meeting. The address as a whole was a most able one, and reflected much thought on all of the leading topics relating to pharmacy at the present time. President Sayre said in part:

PRESIDENT'S ADDRESS

The Pharmacopoeia and National Formulary

The United States Pharmacopoeia and the National Formulary are official volumes to the revision of which our Association, in co-operation with Medicine, looks forward at this time with considerable thought and interest. The pharmacist has always felt that he was the custodian of remedial agents and with the physician helped to determine that which should be worthy of official recognition And it is a deplorable fact that quite a number of the state associations are not incorporated and that their delegates cannot be admitted to the Revision Convention. State associations should see to it that they are properly qualified to be represented at these Pharmacopoeial conventions and thus fulfill the duty they really owe to Pharmacy.

As long as Medicine is both a science and an art and so long as clinical therapeutics is able to produce results by the use of remedial agents whose worth cannot be demonstrated by the pharmaco-dynamic experiment, we will be forced to admit drugs and preparations of both classes. To do otherwise would be tantamount to

L. E. Sayre,
Retiring President

William B. Day,
General Secretary

destroying the work of centuries of experience and dogmatically asserting the value of scientific method which has not yet been able fully to prove itself. No one will claim that the present scope and content of the U. S. P. is perfect and beyond reproach. A certain amount of judicious "pruning" must be done with each successive revision. Even the ardent conservatists do not believe in keeping worthless material in an official volume. They do, however, most emphatically insist that until there is proof positive, not alone by the methods of experimental pharmacology, but also by the bedside experience, that a drug is worthless, that it be recognized and standardized as are those of more evident potency.

If we should agree to limit as useful drugs and preparations those only that give visible results in the pharmacological laboratory, and recognize for standardization only these, I am convinced we should be guilty of unfair treatment to the art of medical practice.

Until Medicine and Pharmacy shall become more exact sciences than there are to-day, there will always be plenty of room for a difference of opinion as to what is valuable and what is not among the remedial agents which are now recognized: what is worthy of recognition in the United States Pharmacopoeia and National Formulary and what shall be excluded as unworthy of such recognition from these volumes. The policy of admission into these national publications has been very largely based upon what is generally accepted as remedial in character by the medical profession as a whole; not by the few, but the many, who find occasion for their use What is thus regarded as useful by the many, it is believed, should be standardized as far as pharmaceutical and medical science may accomplish this end. It is interesting to note here how doctors disagree as to what is and what is not useful. A prominent physician made to me the significant remark: "As long as clinical data and laboratory findings are at such variance it is unwise to be opinionated on the point of drug values." It should always be borne in mind that U. S. P. and N. F. recognition does not carry with it a favorable recommendation. The U. S. P. and N. F. are not to be considered as treatises on therapeutics, but that they have the same relation to Medicine as the United States publications containing certain standards, for foods have to the public. What the public uses as foods is included in the U. S. standard for them. It must be admitted that a certain kind of prestige is given to a remedial agent when it is admitted into either the U. S. P. or N. F., but if one mistakes this kind of prestige for a recommendation the fault lies with one's power of discrimination. We may incidentally remark in this connection that the teaching of experimental pharmacology in our schools of pharmacy will do much to make future pharmacists valuable contributors to the work of Pharmacopoeial revision While, as has been said, the Pharmacopoeia is not a treatise on therapeutics nor, to my mind, should ever become one, yet a knowledge of the pharmacodynamic action of drugs will always be valuable information and will play an important part in determining the question of deletion or inclusion of any specific agent. Students in pharmacy of this generation should be able to comprehend the results of pharmacological research and be familiar with clinical findings so largely contributed by medical science.

We cannot emphasize too strongly the conplementary character of Pharmacy and Medicine in modern life; the fact that the two professions, separate in one way yet united in others, must together help in solving the large problem of public health and disease. An adequate Pharmacy, to my mind, probably now visionary, comprehends a training of nothing less than pharmaceutical education complemented and rounded by large medical knowledge and information. We have within our ranks such men and we need more of them. The inclusion of the so-called laboratory medical sciences into the pharmaceutical curriculum will in the future do much to make the pharmacist and the doctor meet on equal planes and, through this, enjoy mutual respect.

Any one acquainted with the history of Medicine and Pharmacy knows that the publications referred to have, in a great measure, kept pace with the progress of pharmaceutical and medical science, building up from very crude and unrefined material, more accurate agents through their refinement. One familiar with the history of this progress thus accomplished, as it has been, in spite of imperfect organization and co-ordination, must admit that these works make a remarkable showing. Looking to the future, when it is to be hoped a better organization and better co-operation will obtain, we shall make, accordingly, a greater degree of progress. The U. S. P., which this year celebrates its Centenary, stands as a monument to the combined work of physicians and pharmacists. It has the reputation of leading the pharmacopoeias of the other nations of the world. Its short-comings have been very much discussed and undoubtedly no book of this character can ever be above criticism, and yet the fact remains that as a standard it furnishes the pharmacist, the physician and the public with an official safeguard whose value is not to be over-estimated. The Pharmacopoeia has behind it today 100 years of history. During this time it has served the public with a single interest. Its thought and content have ever been free from commercial taint and propaganda. So long as the Pharmacopoeial Convention can attain to this ideal we need have no fear of the future successful development of this national pharmaco-medical standard. The volume is the combined work of two great professions and this it should ever remain.

Much has been said of the shortcomings of the National Formulary. Permit me to say at the outset that I consider

Charles H. Packard,
President 1920-21

Dr. H. M Whelpley,
Treasurer

the N. F. a typical work for the pharmacist; his own and special property, and not a joint work as is the Pharmacopoeia. The committee in charge of this revision will undoubtedly profit by criticisms aimed at its improvement. There can be no gain in combating the representative pharmacists who devote their time to advance the value of this work, or in fact, of any official or quasi-official standard. Opposition to such standards has its root in a large measure in a clamor for commercial license to claim proprietorship—for freedom of action in "exploiting remedial agents of possible proprietary character. It should be said that this is no reflection upon our representative manufacturing pharmacists for they belong to our ranks and are connected intimately and indirectly with the revision and welfare of these works and are above any motive save that of serving their profession and the public.

As before stated, we should have our students familiar with therapeutics and experimental pharmacology. These subjects should be taught in all our schools of pharmacy. We should have students of this generation able to comprehend the results of pharmacological research, with the action of remedial agents, and familiar with the clinical findings, so largely contributed by medical science. The time is now at hand when this step should be taken if pharmacists are to meet the growing demands of the profession and co-operate and contribute wisely to these publications.

E. G. Eberle,
Editor and Historian

Harry V. Arny,
Rep., Progress of Pharm.

Prohibition

Pharmacists, and revisers of our national standards for drugs, have been brought face to face with problems connected with the administration of the prohibition law. This law, aside from its strictly moral phase, is an expression of the decent element of society irrespective of party against intemperance and the saloon. One of our English writers has said that, speaking from a European point of view, one of the curious things about the adoption of prohibition in the United States, extremely characteristic of the American temperament, is the good-natured way in which it was accepted. Men who were not prohibitionists many who had drunk all their lives and believed that liquor was necessary for their well-being, have made willing sacrifice. Whether this critic understands the American psychology or not, the liquor interests are practically out of business. This is a condition, not a theory, the public faces, whether good-naturedly or not. As to the pharmacists, they have as a class been advocates of prohibition, and they very naturally resent, after being recognized by the Government as legal custodians of medicinal alcoholic liquids (including medicinal liquors), being classified as retail liquor dealers. It is worthy to note in passing that the Volstead Act is a distinct recognition of the pharmacist as a proper dispenser of medicine and that the dispensing of alcoholic liquors can be controlled through the profession of Pharmacy. Since the Volstead Act recognizes the sale of distilled spirits and wines for medicinal purposes and other prescribed non-beverages and places upon the pharmacist alone the responsibility of dispensing them for medicinal use, the contention may fairly be held that, the sale of intoxicating liquors for beverage purposes being no longer lawful, to license a pharmacist as a liquor dealer as now prescribed by statute makes him appear to be a violator of the purpose and intent of the prohibitory law; this is unjust. If the Government wishes to recognize as a public need the sale of spirits and wines for medicinal purposes and places this task (and it will be a task) on the pharmacist, it should not begin by prejudicing the public against the pharmacist by designating him as a vender of the very articles the sale of which the country has specifically chosen to prohibit.

Research

Our Association, for several years past, has been trying to solve the problem of properly establishing within itself a sub-division which will stimulate and encourage research. Many valuable contributions have been made by our members deeply interested in its promotion. The executive committee has, during the year, adopted resolutions toward this end which will, perhaps, be offered to the Council for its adoption at this session. The committee now fostering this work should receive every possible help and encouragement. The Council will present to this body, perhaps, the result of its deliberations upon this important subject, and anything I may say concerning it would be anticipating what that body has to offer, but it may not be out of place in this connection to refer to the value of proper organization for this work.

Frederick J. Wulling

Edward Kremers

May I be permitted to say that there appears, in connection with this subject, a very pressing need of study and investigation that should command our immediate attention. There are those now in our profession who, if they were not already over-worked in the daily routine of teaching and administration, and if relieved of a part of this routine, could give their time for either directing or performing research work. Such as are adequately equipped and competent should be sought out and proper means and influence brought to bear to enable them to contribute to the object in view. Institutions, laboratories and experimental stations where such pharmaceutical work can be properly carried on should be tabulated and brought into co-ordination and cooperation. Library facilities for in-

Prof. J. A. Koch

Geo. M. Beringer

vestigational work, which every one will admit is essential and fundamental, should also be tabulated and these data should be in the hands of the research committee which shall have the oversight of this work.

Much may be done quite soon, it has been suggested, in relieving over-worked men capable of research; building up of libraries adequate for research; building up weak laboratories; pointing out to experimental stations and laboratories where the lines are narrow and confined to the standardization of their own products. In the former case they discourage and stifle college men who would enter the field of research; in the latter an inducement for contributions on broader lines is necessary.

Doctor James Rowland Angell, Chairman of the National Research Council, has wisely said, in connection with research, that organization is the clue, and the only clue, to securing some approach to a full interest return on the intellectual capital represented by diverse abilities. In a well conceived general program place can be found for research of very mediocre ability which, if left to itself, is certain, for the most part, to be sterile. As a matter of fact, much of the best research in the great scientific laboratories has emanated from the planning of the master at the head, who, throughout a long period of years, perhaps, guides and directs the research of his disciples with the result that knowledge of the highest value accrues from the integrated work of men, many of whom, if left unguided, would be producing little or nothing or even that of accidental or incidental character, sustaining no significant relation to the main currents of scientific progress. He also refers to the universities as agencies from which personnel may be derived. These serve a double function in producing the larger part of the research in pure science at the same time that they train research personnel. It is doubtless the aim of our Association in organizing this branch to stimulate, if possible, this important work and also to correlate and coordinate it. Research work, if left to the accident of individual initiative, is likely to be indefinitely postponed, but if this individual initiative could be linked to and cooperated with other individuals and agencies among the workers and research institutions it is evident that this, with the general leadership, will promote the object in view. Pharmaceutical problems are so closely connected with many other lines of investigation that we can scarcely fail to recognize the importance of collaborating with experimental pharmacological and bacteriological laboratories, for example, that will assist greatly in rounding out the investigation initiated in the pharmaceutical laboratory. No one individual is, or can be, an expert investigator in all directtions. He must be a part of one great whole and cooperate with the different departments constituting the whole.

It is highly important that the American Pharmaceutical Association shall build up an independent research organization; at the same time there should be established a method of contact with the National Research Council so that cooperation in the larger domain of research shall obtain. It need hardly be said that isolation is impossible and a joint working with this national council will be mutually beneficial. In order to ascertain just what the status of our Association would be in case it should connect itself with this Council, your president corresponded with the officials of that body. The matter was presented and discussed at a recent meeting of the Division of Medical Sciences of this body. The opinion was expressed by the members of that division that it was desirable to cooperate in every way with the American Pharmaceutical Association in its plans for research work. If desirable at any time, a sub-committee of the Division on Pharmaceutical Investigation could be appointed.

The representation of pharmaceutical technology is so independent and distinct, however, that if representation on this National Council be secured it should be as a separate division—not a sub-division of or subsidiary to Medicine; while Medicine and Pharmacy are coordinate, the best interests of both will be served and greater stimulus to both will obtain, at present at least, if they each have a separate and distinct representation on the National Board.

In view of the peculiar character of pharmaceutical research, your president believes that cooperation with the National Research Council should be effected through a creation of a separate division of pharmacy on pharmaceutical technology in this National Council. Pharmaceutical research has much that is medical in its nature and a great deal that is chemical. Its work will thus overlap both the Division of Medical Sciences and the Division of Chemistry and Chemical Technology and should be considered independent of them. Moreover, the field of pharmaceutical technology, whose energies are represented by our many manufacturing houses and whose outlays of capital are very large, is so important that its coordinate nature with chemical technology should be recognized.

Cultivation of Medicinal Plants

If one glances over the pages of pharmaceutical literature he cannot fail to be impressed with the interest that members of the profession have taken in the direction of the cultivation of medicinal plants in the United States. Many of our colleges and schools of pharmacy have, in connection with their institutions, botanical gardens that furnish not only veritable specimens for class study, but authentic material for investigation and research. Important and useful as these two objects are, there is another purpose for which we have justly sought government aid. We would not designate this purpose as a commercial one—not one, at least, as having its root in a purely commercial spirit. The cultivation of medicinal plants has never had, and perhaps may never have, any great amount of commercial vigor in this country. The persistent effort along this line has been rather in the direction of fostering a policy to make our country, as far as possible, independent in every industry possible to produce for consumption, as far as may be, pure and reliable material. It is well known that the United States, extensive a country as it is, including as it does almost every variety of soil and climate, is capable of growing countless varieties of plants. What

HARRY B. MASON

R. P. FISCHELIS

medicinal plants may our country profitably produce? What valuable plant constituents and chemical principles may these plants yield in the laboratory of the pharmaceutical chemist? Should we not cultivate a large percentage of those medicinal plants for the supply of which we are now almost wholly dependent upon foreign countries to supply?

These questions alone, it would seem, are sufficient to engage the interest of our representatives in this governmental city. When it is known that excellent results in investigation of a chemical nature in the refinement of pharmaceutical plant products and in the cultivation of plants of pharmaceutical interest under the supervision of the Government and of the Department of Pharmacy at the University of Wisconsin have been obtained, it would seem unfortunate indeed not to support this more liberally.

Interest in such plant cultivation was estimated by the Department of Agriculture, a few years ago, as yielding an annual production of 200,000 pounds of a volatile oil from one of the plants of the mint family alone. It would seem, therefore, that the commercial importance of the enterprise should attract the interest and support of our statesmen. That foreign countries have acquired a commercial eminence, through their interest in this direction, is a fact in itself that should make its appeal to the government of our own country. Your President would advocate a policy, both state and national, of liberal appropriations for carrying on the work of drug propagation as being in the best interests of the American people. He would recommend in particular that the various schools of pharmacy give the subject of drug cultivation serious consideration, paying especial attention to growing and developing on a commercial scale such drug plants as are found to be particularly adapted to the climatic and soil conditions of their respective states.

Schools of Pharmacy

In a very real sense it may be said that the progress of our schools of pharmacy measures the rate of the professional advance of our calling. In the final analysis they are the barometers of our pharmaceutic life. I am not unmindful of the many improvements and advances along lines of retail business; the splendid achievements of our pharmaceutical houses; the industry and progress of our jobbers; surely they are pushing forward with tremendous strides and their activities count for much and should be encouraged. But I should like, in closing this address, to call particular attention, to focus your best thought, on what seems to me to be the very center, the nucleus, if you please, of the profession of Pharmacy.

A great deal has been said about the dual nature of our calling, of its commercial and professional aspects, and of their ever conflicting ideals. This vexatious subject I shall not open up for discussion at this time. We are progressing and we shall continue to progress, I feel sure. Herein lies, to my mind, the very hope and solution of the problem. If we truly push forward in the light of to-day, ever guided by the twilight of days gone by, our divergent paths shall sometime meet and Pharmacy shall find itself. To this end I know of no more potent agency, so full of hope, as our educational institutions. Learning, theoretical and practical, has done no less than win the war and save the world for democracy. Our schools, standing aloof from business, must in the large, point the way of pharmaceutic advance. They can lead only as they have your patronage and support. The next generation of pharmacists must be better trained than the one before. Preliminary educational requirements must first of all be advanced, for in proportion as this is accomplished shall we secure the maturity so badly needed in teaching real Pharmacy, rather than the question and answer smatterings so prevalent to-day. I have no fear for the future of Pharmacy if this Association will support an adequate educational program. The profession of Medicine stands behind its schools to their everlasting credit and profit. Let us do likewise, if we desire the prestige and recognition which are our due.

The address was referred to a committee consisting of Charles W. Johnson, chairman; Charles H. LaWall, H. M. Fraser, W. F. Rudd, and M. Noll, which later reported, the following recommendations made by the President being approved by the association: I, that state associations should be incorporated; 2, that the U. S. P. should not be limited in scope to those drugs whose potency is definitely proved by laboratory or clinical methods; 3, that the association express its attitude by resolution concerning the best method to be employed in the revision of the U. S. P.; 4, that pharmacists who dispense liquor should not be classed as liquor dealers; 5, that the association recognize the importance of drug plant cultivation and lend its influence and assist state and national institutions in their efforts to secure appropriations for this important work; 6, that the president appoint a committee of three to co-operate with similar committees already appointed by the National Association of Boards of Pharmacy and the American Conference of Pharmaceutical Faculties, and to urge and assist in prerequisite legislation.

President Sayre appointed the following members as a Pre-Requisite Committee: Edward Spease, of Cleveland; E. F. Kelly, of Baltimore, and Dr. R. A. Lymona, of Lincoln, Neb.

DR. E. F. KELLY
Prerequisite Com.

PROF. EDW. SPEASE,
Prerequisite Com.

Secretary's Report

The activities of the association are reflected in the report of General Secretary William B. Day, who stated that the past year had witnessed a marked growth in the membership, the names of approximately 3,300 active and 2,000 soldier and sailor members being now carried on the rolls. Nearly 500 new members had been elected since the last meeting, and he hoped this steady growth would be maintained. It now seemed as though a large proportion of the soldier and sailor members will become active members at the end of the year, and these, with the accessions of new members which may be counted upon during the remainder of the calendar year would bring the active membership near the 5,000 mark.

Secretary Day also reported figures which showed an increase over that of a year ago from the sale of the National Formulary. This he said was due in large part to the increased enrollment in schools of pharmacy and the demand for the work as a textbook. Sales of 3,595 copies were made in 1919, producing an income of $7;050.13. Total sales of the 4th revision of the N. F. to date aggregate 30,047 copies, the total income therefrom being $52,090.24. A larger number of copies of proceedings and year books had been sold than in any preceding year, the total sales amounting to $290.80. The 1918 Year Book will soon be ready.

Various reports from committees were presented at the general sessions of the association; among the recommendations made therein, the following were approved: Recommendation of the Council regarding holding a referendum on the Year Book, which will be taken by mail at the time of election of officers this year; the appointing of a special committee to consider the question of regulating the exportation of narcotics; permission to the Committee on Model Pharmacy Law to continue and give its final report at the next meeting; appropriating $150 for continuing the work of the Co-operative Publicity Committee, and the recommendation of the Committee on Reorganization, Dr. F. E. Stewart, chairman, that the committee be continued with permission to add members of the association who are especially interested, subject to the approval of the Council.

The report of Chairman Beal of the Committee on Constitution and By-Laws will lie over until next year. The proposed amendments to Chapter 1, relating to the election of officers were tabled and it was decided to continue the present plan of election, except that hereafter the Nominating committee will meet later in the Convention week, and not immediately after the first general session as has been the custom heretofore.

The following resolution, presented by W. F. Rudd, of Richmond, Va., was adopted:

"That the Association in general session assembled go on record as approving of the most active relations with the various departments of the United States Government equipped for co-operation in the forthcoming revision of the United States Pharmacopoeia."

At the conclusion of the business of the association, President Sayre called upon C. A. Mayo to assist him in installing the officers, who had been elected by mail ballot last December. The new officers are as follows:

President, Charles Herbert Packard, Boston; 1st vice-president, E. Fullerton Cook, Philadelphia; 2nd vice-president, Charles E. Caspari, St. Louis; 3rd vice-president, W. P. Porterfield, Fargo, N. D.; Members of the Council, Harry B. Mason, Detroit, Mich.; Lucius E. Sayre, Lawrence, Kansas, and Frederick J. Wulling, Minneapolis.

New Orleans was selected as the place of next meeting, the date to be early in Septmber, 1921.

RECIPROCAL REGISTRATION INCREASING

National Association of Boards Holds Annual Meeting and Elects Officers—Pre-Requisite Evolving New Class of Pharmacists

At the meeting of the National Association of Boards of Pharmacy, held in Washington during the week of the A.Ph.A. Convention, Charles Gietner, of St. Louis, a member of the Missouri Board of Pharmacy, was elected president, while eight regional vice-presidents were elected in accordance with the plan proposed in 1919 by John Cully, of Ogden, Utah, a former president of the association. H. C. Christensen, of Chicago, Ill., was re-elected secretary, and the retiring president, W. R. Jarrett, of Oklahoma City, Okla, was selected as chairman of the executive committee.

The work of the association during the past year was very fully covered in the report presented by Mr. Christensen. Notwithstanding that only eight months had elapsed since the last annual meeting, the receipts were within $200 of the amount taken in during the previous twelve months, or $13,290, as against $13,488 in 1919. If the income continued for the remaining four months at the same rate, the amount for the full year will aggregate about $20,000. In the period between the 1919 and 1920 meeting, 815 reciprocal application blanks had been issued as against 810 for the twelve months period between the 1918 and 1919 conventions. If this rate continued for the current twelve months, the total number issued will approximate 1,200. Since the last convention 523 reciprocal registrations have been reported.

The secretary stated that the number of reciprocal application blanks issued indicated that reciprocity for pharmacists was growing in popularity, and it was but fair to assume that as the plan became better understood by the rank and file of pharmacists, it would be more extensively employed in the future. Again, still more registrants would avail themselves of this privilege when the remaining states (New York, New Jersey, Rhode Island, California and Wyoming) joined the association, which it was expected they would do within the next year or two. The War, too, had given young men the courage and craving for travel, so that it was to be expected that the coming pharmacist would migrate from one state to another more freely. In its operation, reciprocal registration will do much to equalize and stabilize the supply of pharmacists, and also tend toward the maintenance in all states of a standard of requirements equal to the requirements of the majority of states in the association. As evidence of this, fifteen states have already adopted college of pharmacy graduation requirements, and others will follow shortly. Fully one-half of the states have adopted two years of high school requirements for entrance to examination as registered pharmacist, a few full high school graduation, and the majority of the remaining one year of such work. All of the states are making efforts to increase to full four years of high school work and college of pharmacy graduation not later than 1923.

An outline of the work devolving upon the Secretary's office was given in detail, and the Secretary stated that the time was fast approaching when the N.A.B.P. would become the great clearing house for all sorts of information for the individual boards and members thereof on questions pertaining to examinations, legislation, etc.

As Chairman of the Advisory Examination Committee, Mr. Christensen reported that the gap that separated the educating and examining groups, that is between the colleges and the boards, was happily disappearing, and that under the able leadership of Dr. E. A. Ruddiman, chairman of the Joint Examination Committee, a plan was being evolved that would prove acceptable to all of

H. C. CHRISTENSEN,
Chicago, Ill.

JOHN CULLEY,
Ogden, Utah

the interested parties. Examinations would have to be modified to meet the changing conditions, and also to meet the requirements of the 10th revision of the U.S.P. and the 5th revision of the N.F. when these become official. In those states where college graduation is a requirement, the candidates might be assumed to know certain theoretical facts, and the examiners might lay more stress on the practical side of pharmacy than had heretofore been done. It was one thing to know that an applicant knows certain facts, but it is another thing to know that he can apply what he knows. The secretary suggested it was possible that in five years or ten years the examiners might put the candidate into a well-equipped laboratory and give him a practical problem in assaying, or synthesis, manufacturing, testing for purity or strength, or microscopic identification as a test of his qualifications.

Graduation as a pre-requisite to registration is tending to produce two distinct classes of pharmacists, and such a requirement may decrease the number of registered pharmacists; cognizance of these conditions must be taken, and the needs of the proprietor and the public for a sufficient number of pharmacists duly licensed to carry on the work must not be overlooked. This supply of qualified men must come largely from the ranks of the assistants, and it may be necessary to create a new class of pharmacists for this purpose. Hitherto assistant registration has been looked upon as a transient thing, a stepping stone to full registration. Assistants must soon be considered as constituting a distinct class. They will, in the near future, be about the same grade as the present registered pharmacist, but the rank and file of them will remain as assistants. Call these what you will, it is a class we are evolving, and due consideration for their examination must be taken in the near future.

Research in the science of giving examinations, which possibly might be carried out by some endowed institution, was suggested by the secretary, as this work as a science seemed to be very little understood. With a better understanding of these principles, and the machinery for their application, examiners would be on the high road to perfection.

Conference Favors Advancing Standards

Closely articulated with the annual meetings of the A.Ph.A. and the National Associations of Boards of Pharmacy were the various sessions of the American Conference of Pharmaceutical Faculties, a report of which must be reserved for the next ERA. The dominant note emphasized in the proceedings was the attitude of the delegates toward higher educational standards, the Conference going on record as favoring a requirement of high school graduation and three years of college work as a pre-requisite to examination for registration after 1923. The following officers were elected for the ensuing year;

President, W. J. Teeters, dean of the College of Pharmacy, University of Iowa; vice-president, W. H. Ziegler, South Carolina College of Pharmacy, Charleston, S. C.; secretary-treasurer, Theodore J. Bradley, dean of the Massachusetts College of Pharmacy, Boston, Mass. R. A. Lyman, dean of the College of Pharmacy, University of Nebraska, was elected chairman of the Executive Committee, and Dr. William C. Anderson, dean of the Brooklyn College of Pharmacy, chairman of the Syllabus Committee.

MAKERS OF PROPRIETARY GOODS ADOPT NEW ADVERTISING PLAN

With the closing session of the thirty-eighth annual meeting of the Proprietary Association at the Pennsylvania Hotel, New York, last week, Frank A. Blair, of Foley & Company, Chicago, was again re-elected to the presidency. E. K. Hyde of the Mentholatum Company, Buffalo, N. Y., was selected as first vice-president to take the place of W. H. Gove, deceased and formerly of the Lydia E. Pinkham Medicine Company. The second vice-presidency is filled by Carl J. Balliet of Buffalo, who replaces Alan F. Moore of the Caldwell Pepsin Syrup Company of Monticello, Ill. Charles P. Tyrrell of the Syracuse Medicine Company, Syracuse, N. Y., was re-elected secretary and treasurer. The two members selected for the Executive Committee this year were R. R. Land of the Dr. Kilmer Company, Binghamton, N. Y., re-elected, and C. H. Camp of the Centaur Company, New York, who takes the place of E. K. Hyde.

In his annual address President Blair urged upon the members of the organization that they act in concert with the prohibition agents in the strict enforcement of the Eighteenth Amendment. In pointing out the difficult position in which the legitimate proprietary industry now stands, he said; "There has sprung up within the past year a new class of manufacturers, who seem to think that they can carry on, under the guise of the sale of medicinal products, a booze substitute business." He also asserted that the members could be of great value in "assisting in bringing to justice manufacturers who may seek to violate the laws of the United States by cloaking a booze business as a medicine business, thus injuring your property and mine."

President Blair was of the opinion that no manufacturer could absorb a 10 per cent tax, and the only thing for him to do was to pass it along in the form of increased prices. This, he said, would be most unfortunate at a time when all efforts should be for a reduction of prices. Members in their contact with retail druggists through their salesmen and advertising men, ought to impress upon the retailers the fact that they are required by law to affix a stamp to each package of medicine, and collect the face value of that stamp from the person to whom the sale is made.

Perhaps the most significant single topic which appeared to be given a large share of attention at the meeting was the subject of advertising. Following an address by H. J. Kenner of the Vigilance Committee of the Associated Advertising Clubs of the world in which he discussed general advertising problems and more particularly those of the proprietary industry, the Association accepted a recommendation of the Publicity Committee to establish an advertising bureau in connection with the work of the Chicago office of the organization and endorsed the standards of medical advertising as promulgated by the Associated Advertising Clubs of the World. The purpose of the advertising bureau is not to exercise anything resembling a censorship but is to be merely a committee to whom members may submit their advertising copy for advice.

A. Ph. A. AND PHARMACOPOEIAL REVISION

Members of New York Branch Hear Reports of Delegates and Discuss Proposed Pre-Requisite Requirements and Criticisms on the Present Official Guide

While the May meeting of the New York Branch of the American Pharmaceutical Association was not as large as that of most of the previous meetings of the branch held during the year, the proceedings were not without interest, as the session was largely taken up with reports of delegates to the annual meeting of the parent association and the decennial gathering of the United States Pharmacopoeial Convention, both of which met at Washington earlier in the month. The program also included an address by Professor Jeannot Hostmann relating to certain features of the Pharmacopoeia, directing attention especially to the manner in which tests and other information were given in the introductory notices of the present revision.

Clyde L. Eddy, a delegate in attendance at the Washington meeting, reported that in his opinion the most important subject discussed at any of the sessions of the National organizations was that of pre-requisite legislation, President W. R. Jarrett of the N. A. B. P., recommending that college graduation be made a requirement for registration in all of the States after 1923. On the other hand, the American Conference of Pharmaceutical Faculties went on record as favoring a requirement of high school graduation and three years of college work after 1925. He said that representatives of the Army and Navy were present, and they were uniformly favorable to the professional recognition of pharmacists in the Government service, providing pharmacists should raise their general educational requirements on a parity with those obtaining for medicine, dentistry, etc. He then asked the question as to what effect the proposed advance in educational standards would have on commercial pharmacy. Would there be a division of pharmacists into two classes, as those whose business would be restricted wholly to professional work, compounding prescriptions, performing analytical work and the like, and those who sold nothing but in a commercial way. Particularly, would such a division cause chain store systems to relinquish the compounding of prescriptions?

Dr. Jacob Diner, in answer to the question, said that a division of pharmacy into two classes was possible within the next twenty or twenty-five years. In most of the countries in Europe at the present time, there were two kinds of stores, those which sold only household articles and other materials which required no particular professional training, and those which were devoted wholly to scientific pharmacy, the proprietors of which, besides compounding prescriptions, were the chemists of the community, doing analytical work of all kinds and such other professional duties as might be required. He said such a division might work out very well, but after all, it was largely a matter of choice with the pharmacist himself. Raising the educational requirements would tend to place the scientific pharmacist on a higher level in the community, and would not be without effect on the courses now given in colleges of pharmacy. As it is now conducted, the average college course is not long enough, and students are required to cover so much that a large portion is naturally undigested and could not be assimilated in an orderly manner. Dr. Diner said he would answer Mr. Eddy's question by saying we are starting on the road to put pharmacy on a professional basis.

Professor Hostmann, also a delegate to the A.Ph.A. meeting, told of the decision of the parent body to call for a referendum vote on the question of allowing the dues to remain at $5 and making a charge to members for the Year Book. Dr. Joseph L. Mayer said one of the most important addresses at the convention was that by Federal Prohibition Commissioner Kramer in that it was exhaustive and illuminating, while the sessions of the Commercial Section "were the best ever."

Dr. H. V. Arny, reporting as a delegate to the Pharmacopoeial Convention, rapidly sketched some of the leading features of the meeting also held at Washington. Among these were the remarkably fine address of the retiring president of the Convention, Dr. H. W. Wiley; the lack of medical representation in the meetings, medical bodies being represented by 41 delegates, and pharmaceutical bodies by 84 delegates; Government representation on the Pharmacopoeia being now increased to five branches by the recognition of delegates from the Customs Service; and the reception for the first time of delegates representing the American Chemical Society and the Association of Dairy, Food and Drug Officials.

Dr. Arny discussed very briefly the general principles to be followed, and said that the new Revision Committee would be composed of 17 medical men and 33 pharmacists. Dr. Reid Hunt, of Harvard University was elected president, Dr. L. F. Kebler, secretary to succeed Dr. Murray G. Motter, and S. L. Hilton was re-elected treasurer. As regards the geographical distribution of the membership of the Revision Committee, New York was represented by 5 delegates and Michigan by 6, three of the last, he said being employees of pharmaceutical houses. For the first time in history the numerical representation by delegates was larger from the States west of the Allegheny mountains. There is a fund of $35,000 in the treasury of the Convention left over from the last revision. This will be used to defray the expenses of the forthcoming Pharmacopoeia, much of the work for which, Dr. Arny said, had already been done.

Professor Hostmann then followed with his address, which was devoted principally to comments on the present or Ninth Revision of the Pharmacopoeia. Among other things, he said, there was no paragraph in the introductory part of the Pharmacopoeia relating to tests, and he thought such should be provided. A table of solubilities should also be incorporated, which should also contain an additional column showing what quantities of all official substances are soluble in 100 mils of water. There should be more general tests described in Part II, but from which all special tests should be excluded. The expression "neutral to litmus," as used in various places in the Pharmacopoeia, should be more specific, by stating whether litmus solution or litmus paper is to be employed. While a test is given for the determination of wood alcohol in alcohol, is this test to be used for detecting wood alcohol in preparations as is directed under distilled extract of witchhazel? The subject needs elucidation. Uniformity of treatment of the various articles was also occasionally lacking in the descriptive matter of the text. One instance, the speaker mentioned, was that relating to the "caustic taste" of solution of sodium hydroxide, and the pharmacopoeial admonition that the solution "should not be tasted unless largely diluted." Under solution of zinc chloride, which is much more powerfully caustic than sodium hydroxide, nothing is said about its causticity, or that it should not be tasted, although under zinc chloride the statement is made that "it is so intensely caustic as to make tasting dangerous," etc. The statement that rosolic acid was soluble in alcohol, as stated under rosolic acid test solution used as an indicator, was questioned, Professor Hostmann saying that he had yet to find a sample of this acid which was soluble in alcohol.

Dr. Arny commented on the address which he said contained many timely suggestions. Dr. Joseph L. Mayer said that in his opinion a majority of the discrepancies in the Pharmacopoeia could be traced to poor editing, and he thought that in preparing the new revision of the Pharmacopoeia, the committee should employ a competent editor to supervise all copy for use in the book.

Tenth Decennial Revision of the U. S. P.

Convention at Washington Meeting Elects Officers and Adopts Principles to Be Followed in Next Pharmacopoeia

THOSE who expected a protracted session of the United States Pharmacopoeial Convention at the decennial meeting held in Washington last week, were certainly disappointed, as the program was completed, and most of the delegates in attendance were headed homeward within three days of their arrival in the Capital city. This was due to the fact that the arrangements had been carefully worked out, and in most instances, it was only necessary to have the work of the various committees ratified by the delegates to represent the action of the convention. Among the leading features of the meeting were the scholarly and comprehensive address of the retiring president of the Convention, Dr. Harvey W. Wiley; the preponderance of pharmaceutical delegates present, medical bodies being represented by 41 delegates and pharmaceutical bodies by 84 delegates; and the recognition of delegates for the first time representative of the Customs Service, the American Chemical Society, and the Association of Dairy, Food and Drug Officials.

DR. REID HUNT, Harvard University, Convention President, 1920-1930

The sessions were held in the assembly room of the New Willard Hotel, and after listening to President Wiley's address, the delegates proceeded to follow the order of business, their credentials having been passed upon by a committee appointed for that purpose. From the treasurer's report it was learned that a fund of $35,000, left over from the last revision, was already provided to defray the expenses of the forthcoming revision of the Pharmacopoeia, most of the work for which had already been done.

President Wiley's Address

A large part of Dr. Wiley's address was devoted to the historical development of the United States Pharmacopoeia, and he told how, on January 8, 1817, at a meeting of the New York County Medical Society, Dr. Lyman Spalding had called attention to the desirability of having a National Pharmacopoeia, and that a committee was appointed, which later decided to divide the country into districts, and to invite the State Medical and local medical societies of each district to send delegates to the meetings to be held in 1819 in each section. The four sections were instructed to send delegates to a National Convention to be held in Washington in 1820, and the meeting was held in the Senate Chamber in the north wing of the Capitol on January 1, 1820 as planned, all of the delegates bringing material to be incorporated in the Pharmacopoeia. The members of the first Committee on Revision, or rather publication, were all physicians, Dr. Spalding being named as chairman, and who was finally given sole charge of printing the first edition, which was issued December 15, 1820, by Wells and Lilly of Boston. Only as many copies were printed as were subscribed for of the first edition, a second edition being called for inside of two years. An interesting item in the first Convention statement of the first edition showed the payment of $50 to some person unknown for translating the new Pharmacopoeia into fluent Latin. Dr. Spalding received in all for his expenses $250 plus $13 which he added for the expense of taking his son with him to one of the meetings.

DR. HARVEY W. WILEY

In leaving the historical side of the Pharmacopoeia, Dr. Wiley said that we had reached a point where two great professions, medicine and pharmacy, are engaged in practically equal numbers in constructing the work which, with the National Formulary, is now the standard for drug products in the United States. He hoped the time would never come when the Pharmacopoeia would be dominated by politics. He thought it would be a wise rule that the number of delegates should be as nearly divided as possible between the two great professions, and it might be wise to attempt to classify the institutions already admitted to membership in the Convention as to rank and character, thereby restricting somewhat the number of delegates to be appointed.

The introduction of any commercial element in a Pharmacopoeial Convention was to be deplored. The more completely we refrain from any action which could possibly introduce the fundamental principles of commerce into the Convention, the better off we will be. The putting of whiskey and brandy back into the Pharmacopoeia was an action the incoming Committee of Revision should carefully consider. In the make-up of the Committee members should be selected with due regard to the different departmnts of work, and every branch of science and research should be represented in the making of the Pharmacopoeia. The attempt should be continued to omit from the materia medica of the Pharmacopoeia, those things which science and practice have shown to be of little or no value, but on the other hand, the attempt should be continued to add to the materia medica those products which have been demonstrated to be of use. No article should be added to the Pharmacopoeia because of any particular interest desiring its incorporation.

In his address Dr. Wiley suggested that steps be taken before the next Decennial Revision to reorganize the Revision Committee on a somewhat different basis than that obtaining heretofore. He suggested that the name of the committee be changed to the Electoral Committee, whose functions would not be to revise the Pharmacopoeia, but to elect a group of five or ten or even fifteen, or whatever number might be deemed to be the most efficient, to take full charge of the revision. He said that a compact body like that he had in mind would undoubtedly be more efficient and reach more definite results and in a shorter period than can possibly be secured with the present heterogeneous arrangement. It would also be a comparatively easy matter to arrange for the chemical, biological, pharmacological and botanical expert investigations in connection with the great Departments of the Government that are now affiliated with the Pharmacopoeial Convention. The work of the Executive Committee on Revision would be largely devoted to the problem of scope and therapeutics and to the supervision of the work to be done in the laboratories, the collection of data, editing, and the incorporation of these data in the new Pharmacopoeia.

The Convention was congratulated on the fund accumulated, which Dr. Wiley called a "nest egg" and which is invested in gilt-edge securities. There is a constant and continual income from the sale of the English edition, and the Convention is now just beginning to have an income from the Spanish edition. He thought it might be well if the constitution of the Convention could be so altered as to admit national medical and pharmaceutical bodies and schools of medicine and pharmacy in the Latin Americas to participate in the Decennial gatherings, and also, to consider the admission of similar bodies from the Dominion of Canada, the Pharmacopoeia, he declared, being "not meant alone for the boundaries of one country, but for all contiguous countries, especially in the same hemisphere." Neither should Hawaii, Porto Rico, or the Philippines be neglected.

In closing his address, Dr. Wiley referred to the fact that death had not spared the official members of the Convention during the past decade. Among those who had passed away were Dr. Horatio C. Wood, president; Charles Caspari, Jr., 2nd vice-president, and Leo Eliel, 4th vice-president, all officers of the Convention; Samuel A D. Shepard, member of the Board of Trustees, Thomas G. Smith and G. Lloyd Magruder, incorporators, and the following members of the Committee of Revision: Joseph P. Remington, chairman; C. Lewis Diehl, vice-chairman; Carl S. N. Hallberg, Albert Plaut, Martin I. Wilbert, James M. Good, Wm. C. Alpers, J. C. Schlotterbeck, and John H. Long. In honor of the dead he asked the Convention to rise and stand a few moments in silence, an act which was reverently carried out by all of the delegates.

U. S. P. Changes Should not Disturb Trade

Reports from various organizations as to the changes which should be made in the Pharmacopoeia, were referred to the incoming Committee of Revision. Dr. L. F. Kebler, chairman of the Pharmacopoeial Committee of the A.Ph.A., presented a report in which attention was called to several features. It stated that the Ninth Decennial Revised Pharmacopoeia provides many satisfactory standards, tests, methods of analysis, tables, limits, etc., some of which had been tried out in court, and others at ports of entry. Importers and foreign dealers are conversant with them, and unless something is to be gained by changes, these should not be disturbed. The report stated that changes in standards, methods, etc., not only disturb the trade, but add to the labors of the analysts. In view of the high cost of alcohol and the restrictions thrown about this important solvent by existing regulations, and the fact that approximately one-third of all medication is marketed in the form of tablets and the further fact that this form of giving medicines is very satisfactory, the report stated the belief that the Committee of Revision should give this form of medication very careful consideration, with a view of providing standard methods of manufacture. Tablets should at least receive the same recognition that is given to pills.

Officers Elected

To serve as officers of the Convention and members of the Revision Committee for the next ten years, the following were elected:

Officers of the Convention; President, Dr. Reid Hunt, of Harvard University; 1st vice-president, Dr. F. B. Power, U. S. Department of Agriculture, Washington, D. C.; 2nd vice-president, Dr. M. Howard Fussell, Philadelphia; 3rd vice-president, Dr. W. A. Bastedo, New York City; 4th vice-president, Prof. L. E. Sayre, University of Kansas, Lawrence, Kansas; 5th vice-president, Dr. J. F. Anderson, New Brunswick, N. J.; secretary, Dr. L. F. Kebler, Bureau of Chemistry, Washington, D. C.; assistant secretary, Dr. W. W. Stockberger, U. S. Department of Agriculture, Washington, D. C.; treasurer, Samuel L. Hilton (re-elected), Washington, D. C.

Board of Trustees; Prof. James H. Beal (re-elected), Urbana, Ill.; Prof. F. J. Wulling, University of Minnesota; Dr. H. M. Whelpley, (re-elected), St. Louis; Dr. George H. Simmons, Chicago, Ill., and Dr. S. Solis-Cohen, Philadelphia.

Members of the Revision Committee:

Medical—Dr. J. F. Anderson, New Brunswick, N. J.; Dr. H. G. Barbour, New Haven, Conn.; Dr. W. A. Bastedo, New York City; Dr. H. A. Christian, National Research Council, District of Columbia; Dr. A. R. Craig, Chicago; Dr. C. W. Edmunds, Ann Arbor, Mich.; Dr. B. Fantus, Chicago; Dr. L. P. Hamburger, Baltimore; Dr. R. A. Hatcher, New York City; Dr. E. R. Hodge, U. S. A., District of Columbia; Dr. I. E. Leonard, Atlantic City, N. J..; Dr. G. M. McCoy, Public Health Service, District of Columbia; Dr. L. G. Rountree, Minneapolis; Dr. T Sollman, Cleveland; Dr. E. R. Stitt, U. S. N., District of Columbia; Dr. H. C. Wood, Philadelphia, and Dr. M. H. Fussell, Philadelphia.

Pharmaceutical—H. V. Arny, New York City; C. L. Alsberg, chief bureau of chemistry, District of Columbia; G. M. Beringer, Camden, N. J.; T. J. Bradley, Boston; E. F. Cook, Philadelphia; J .Culley, Ogden, Utah; C. E. Caspari, St. Louis; A. H. Clark, Chicago; A. G. Du Mez, hygienic laboratory, District of Columbia; A. R. L. Dohme, Baltimore; J. Diner, New York City; C. A. Dye, Columbus, Ohio; F R. Eldred, Indianapolis; J M. Francis, Detroit; E. N Gathercoal, Chicago; L D. Havenhill, Lawrence, Kan.; E. M. Houghton, Detroit; C. B. Jordan, Lafayette, Ind.; C. W. Johnson, Seattle, Wash.; E. F. Kelly, Baltimore; H. Kraemer, Ann Arbor, Mich.; C. H. LaWall, Philadelphia; B. L. Murray, Rahway, N. J.; E. L. Newcomb, Minneapolis; F. W. Nitardy, New York City; P. S. Pittenger, Philadelphia; W. O. Richtmann, Madison, Wis.; G. D. Rosengarten, Philadelphia; E. A. Ruddiman, Nashville, Tenn.; A. Schneider, Lincoln, Neb.; L. A. Seltzer, Detroit; W. L. Scoville, Detroit; and W. H. Ziegler, Charleston, S. C.

Prof. James H. Beal and Dr H. M. Whelpley, were elected president and secretary, respectively, of the Board of Trustees, and E. Fullerton Cook, and Charles H. LaWall, chairman and secretary, respectively, of the Committee of Revision.

Physicians Must Readjust Themselves

The new officers of the pharmacopoeial convention were installed in office immediately following their election. In taking the chair, President Reid Hunt declared that many physicians today will have to readjust themselves to changed conditions and realize that great responsibilities rest on them far beyond the mere giving of relief. He urged that the newly appointed committee on revision maintain the advance made as the result of the war in supplying of American-made drugs.

The convention then proceeded to the adoption of general principles to be followed by the Revision Committee in the preparation of the next Pharmacopoeia. Among the more important of these adopted was the ninth, relating to the percentages of alcohol in official preparations, which was stated as follows: "It is recommended that a range of the content of absolute alcohol, by volume, be stated in the Pharmacopoeia, accompanying the text, for each preparation containing alcohol."

The convention was productive of many suggestions and much new material brought forward to aid in pharmacopoeial revision, and which were passed on to the new Committee of Revision. The main portion of Dr. Wiley's address and the general statement of principles to be followed in the forthcoming revision are reserved for publication in an early issue of the Era.

FOOD FOR AUSTRIAN PHARMACISTS

Earnest solicitations for financial aid to purchase food to keep the pharmacists of Austria and their families from starvation have been received by various individuals and organizations in this country, the urgent necessity for immediate assistance being shown in the appeals of the officers of the Austrian Pharmaceutical Society addressed to the members of the American Pharmaceutical Association. At the Washington meeting of the latter organization held recently, attention was called to these pleas by various members, among them being Hugo Kantrowitz, of New York, who told of the conditions existing in Austria, that as a result of the war, food was unobtainable except through outside agencies, and unless assistance was provided to purchase it, Austrian pharmacists and their families would die of starvation. In presenting the appeal to the Council of the A.Ph.A. Mr. Kantrowitz further stated that the solicited assistance was due the Austrian pharmacists, for they had spent large sums of money to entertain the 125 participants in the tour of the American pharmacists who visited Austria in 1914, just prior to the beginning of the war.

The Council then adopted the following plan, and authorized Mr. Kantrowitz to take charge of securing contributions. Members are requested to contribute money only, checks or drafts for which should be made payable to Charles F. Schleussner, of New York, who will turn the same over to Mr. Kantrowitz for the purchase of Food Drafts which will be sent to the two Austrian pharmaceutical societies in Vienna, and by them distributed for the benefit of their members. Contributions of food products are not desired, as under present conditions such cannot be delivered in Austria, but food can be purchased by means of Food Drafts through the agency of the American Relief established in Austria.

A $10 Food Draft entitles the holder thereof to 24½ pounds of flour, 10 pounds of beans, 8 pounds of bacon, and 8 cans of condensed milk, while a $50 Food Draft will provide the holder with 140 pounds of flour, 50 pounds of beans, 16 pounds of bacon, 15 pounds of lard, 12 cans of corned beef, and 48 cans of condensed milk.

The need is urgent and it is hoped that contributions will be generous and quickly forthcoming. American pharmacists have always been liberal in responding to the call of suffering, and it is certain their offerings will be appreciated by their starving colleagues in Austria. Send your contribution to Hugo Kantrowitz, 104 John street, New York, and he will do the rest.

N. W. D. A. TO CONVENE IN CINCINNATI

Lee Wiltsie, general chairman of the Entertainment Committee on arrangements and entertainment of the National Wholesale Druggists' Association, has announced that the forty-sixth annual convention of the association will be held this year from Oct. 25 to 29 at Cincinnati, Ohio. Convention headquarters will be at the Hotel Gibson. Requests for reservations should be forwarded to Mr. Wiltsie, P. O. Box 786, Cincinnati, Ohio.

ON FILLING NARCOTIC PRESCRIPTIONS

Dr. Hubbard Interprets Druggists' Rights and Explains Supposed Conflict Between Provisions of Federal and State Laws

We have received from S. Dana Hubbard, M.D., acting director of the Bureau of Public Health Education, Department of Health, City of New York, the following article relative to narcotic prescriptions. This article is intended to convey to druggists information relative to the supposed conflict between the Harrison Narcotic law and the Whitney (New York State) law, the point being emphasized that "exempt prescriptions, which show on their face that they are for the treatment of some disease other than drug addiction may be filled without any risk to the druggist." The druggist should also bear in mind that "a person suffering from painful and incurable disease which requires narcotic medication is not to be regarded as an addict, even though the dosage, both in frequency and in quantity, may be similar to that of an addict." Dr. Hubbard's explanation of the rights of druggists to fill narcotic prescriptions is clearly stated and should be read by pharmacists generally. It is as follows:

Narcotic Prescriptions

Instances have come to the attention of the Department, of druggists refusing to fill legitimate narcotic prescriptions through uncertainty as to their legal rights. It is not likely that this uncertainty relates to the state law, as the cases in question were of prescriptions marked "exempt" under the regulations of the Department of Narcotic Drug Control. Presumably the druggists are in doubt as to their rights under the Harrison Law.

As a great hardship is inflicted upon persons suffering from painful illness, such as cancer, by difficulty in finding druggists willing to fill their prescriptions, it is important that the law bearing on this question be made clear. The druggists have some excuse in the fact that the state law and regulations are not entirely consistent with the Harrison Law, and compliance with the former is not in itself a protection against violation of the latter.

When applied to concrete cases, however, the points at issue are capable of being clearly and definitely explained. A druggist filling a prescription not marked "exempt" under the state regulations does so at his own risk. This is probably understood by all druggists. The difficulty arises from the necessity of distinguishing between different kinds of prescriptions which are marked "exempt." Under the state law exemptions are granted to addicts as well as to persons suffering from disease.

Under the Harrison Law no druggist can safely fill a narcotic prescription which on its face shows that it is for a case of addiction. The reason for this is that the law does not permit the supplying of drugs to addicts except for the purpose of cure, and it is clearly established that prescribing narcotics for self-administration is not a legitimate method of curing addiction. Therefore a druggist receiving such a prescription must know that it was not written in the course of legitimate practice.

Exempt prescriptions, on the other hand, which show on their face that they are for the treatment of some disease other than drug addiction may be filled without any risk to the druggist. Of course if the druggist knows, or has reason to believe, that the prescription was not written in good faith, that would alter the case. But in the ordinary case of such a prescription, signed by a doctor whom the druggist has no reason to believe to be practicing illegitimately he runs no risk whatever in filling it, even though it should turn out that as a matter of fact the prescription was written in bad faith.

Some druggists think they are required to take pains to assure themselves positively of the good faith of the doctor and the legitimacy of the prescription in such a case. That point has been recently decided by the U. S. Circuit Court of Appeals in the case of Doremus v. The United States, 262 Federal Reporter, page 849. The court in this case held that a druggist, in order to be guilty of a violation of the Harrison Law for filling a narcotic prescription, must have actual guilty knowledge that the prescription was not written in good faith, and that he would not be guilty merely for a failure to make inquiries, or to take steps to ascertain the facts.

It is true the court also held that if it was apparent from the prescriptions that they were for addicts and not for the treatment of disease, that might be sufficient to infer knowledge on the part of the druggist. That is not the kind of prescriptions, however, that we are now discussing. It should also be borne in mind that a person suffering from painful and incurable disease which requires narcotic medication is not to be regarded as an addict, even though the dosage, both in frequency and in quantity, may be similar to that of an addict.

There is, then no excuse for a druggist refusing to fill a prescription for narcotics, marked "exempt," and indicating on its face that it is for the legitimate treatment of a case other than drug addiction, *unless he knows or has definite reason to believe* that the physician who wrote it was not practicing in good faith. A refusal to fill such a prescription is not only an act of inhumanity that ill accords with the ethical standards of the pharmaceutical profession, but might very properly and justly be resented by the physician writing the prescription, as being a reflection on his professional good faith.

MUST FILE ALL PRESCRIPTIONS

A decision of interest to pharmacists was handed down recently by Magistrate B. J. Douras in the Morrisania Court, New York City, in a case which grew out of a dispute between one Alexander Reise and M. Lifshitz, a druggist at 650 E. 163d street, over the retention of the prescription for medicine the latter had compounded. The decision, which was obtained through the efforts of the Bronx Pharmaceutical Association, shows conclusively that a druggist may retain either the original prescription or a copy of the same, if he so desires. As a matter of fact, the ordinance of the New York Department of Health compels the pharmacist to retain the original prescription.

The facts in the case are as follows; Reise presented a prescription at the drug store of Lifshitz and after the medicine was prepared, demanded the prescription back. The druggist refused to return the prescription and Reise secured a subpoena in the Morrisania Court. Lifshitz appealed to the Bronx County Pharmaceutical Association, of which he is a member, which decided to get a ruling on the matter. President Mendel Zagat of the association, a druggist at 850 E. 156th street, secured counsel to contest the case on behalf of the druggist. On appeal to Health Commissioner Copeland, he assigned Ole Smithe, of the Drug Bureau of the New York Department of Health to investigate. It was found that amendment No. 79 of the Sanitary Code of the City of New York covered this very point by providing that all prescriptions filled by druggists must be placed in a file by the druggists and remain there for five years. On reading this amendment, the magistrate dismissed the case, declaring that the druggist was within his rights in withholding the prescription.

NEW YORK STATE PH.A. COMING MEETING

The New York State Pharmaceutical Association will hold its 42nd annual meeting at the Thousand Island House, Alexandria Bay, on the St. Lawrence River, on June 22 to 25 inclusive. The Commercial Travelers' Auxiliary will also meet at the same time and place, and those in charge of the arrangements have provided a most attractive program for entertaining the visitors, and which includes among other things, the Annual Entertainment on the evening of June 24 at the Thousand Island House, and a baseball game between the druggists and the members of the Auxiliary on the afternoon of June 24.

MULFORD ON LAND AND SEA

In the matter of literary excellence, artistic arrangement, and historic interest, the booklet recently issued under the above title telling the story of the H. K. Mulford Company's activities in the World War, is an example of enterprise that rarely if ever has been excelled. It is a real memorial of the greatest war in all history, and should find a place in every collection of such mementoes. The cover design is a three-color process reproduction of an oil painting which symbolizes Mercy distributing from a cornucopia the wonderful scientific prophylactics and medical agents of which the booklet treats, to the allied armies, all of which are shown, under their respective flags, marching on to victory; and every page contains a handsome photographic reproduction, representing some phase or incident of the great war.

The H. K. Mulford Company does not claim to be the only house deserving credit for altruistic service during the period of hostilities, but in this booklet it does emphasize the fact that pharmacies and pharmaceutical manufacturing houses are a great deal more than commercial institutions carried on for the sole purpose of making money. Exhaustive statistics have been published to show the staggering quantities of ammunition, food and clothing supplied to our soldiers during the war, but little has been written of the life-saving agents—biological and pharmaceutical products—without which the suffering and loss of life would have been much greater. In the distribution of these latter products, the Mulford organization with its more than 2,500 employes, frequently working far into the night and on Sundays in order that the needed life-saving agents might be despatched, and its staff of more than 200 traveling representatives in various countries hastening deliveries to the fighting forces on the different fronts, rendered a service that can never be measured by the yardstick of the financier.

When the war began in 1914 there was no branch of the combined services in which the Allies were so little prepared as in the Medical Department. Particularly was this true as to the use and supply of biological products, and no available stocks were obtainable in Europe. But just prior to the war, the epidemic of disease which followed in the wake of the Ohio flood, the San Francisco earthquake and the Omaha tornado had taught the company the necessity of keeping large supplies of biological supplies in reserve for an emergency, so when cables were received just after the battle of the Marne, all available supplies of tetanus antitoxin to fight the infection then so prevalent in the soil of Flanders were immediately sent and weekly shipments thereafter made until the laboratories of England and France were able to supply the needs of their armies.

Shipments were also rushed forward to Italy, Belgium, Mesopotamia, South Africa, Australia, New Zealand, Canada, Russia, in fact to all of the countries then engaged in the war. In the medical departments of our own army and navy Mulford biological and pharmaceutical products were no less important, and supplying these the Mulford company rendered a service comparable to any of the heroic deeds undertaken during the momentous struggle. The booklet "Mulford on Land and Sea" deserves to be preserved and read by every one connected with pharmacy, for the story it contains constitutes a chapter of meritorious and brilliant accomplishment in the great World War.

Schools and Colleges

NEW YORK C. P. COMMENCEMENT

List of Graduates Headed by the names of Twenty Young Women who Receive the Degree of Graduate in Pharmacy—Honor Roll Students Awarded Valuable Prizes

Relatives and friends were present and filled the spacious auditorium of Carnegie Hall to overflowing as the graduates of 1920 filed in to receive their diplomas at the 90th annual commencement of the New York College of Pharmacy, held on the evening of May 20. The exercises were conducted by Dr. William H. Carpenter, provost of Columbia University with which the College of Pharmacy is affiliated, the graduates marching in to their places on the stage, with Frederick K. James at their head as conductor. Music by the Goldman Concert Band interspersed the various exercises on the program, and to the graduates at least, it was a night long to be remembered.

After the invocation by Rev. Raymond C. Knox, B.D., chaplain of Columbia University, Dr. Carpenter delivered the opening address and then conferred the degree of graduate in pharmacy on the 131 members of the class, 20 of whom were women, the candidates being presented by Charles W. Holzhauer, Ph. G., B.A., secretary of the college. Prof. Curt P. Wimmer, A.M., Phar. D., read the honor roll, which contained the names of twelve graduates who had secured a general average of 85 per cent or over. and then awarded the Alumni Association prizes to the graduates who had been accorded the first, second and third places on the roll, as follows; Gold medal, Miss Rose Lein; silver medal, Abraham Taub; bronze medal, Louis Ensler.

The trustees' special prizes, $100 each awarded for the best ratings secured in competitive examinations in the three general departments, went to Miss Rose Lein, pharmacy, Edward Staloff, chemistry, and Louis Ensler, materia medica. Abraham Schein received the Louis Dohme prize of $100, for the best practical knowledge of the drugs of the U.S.P. and N.F.; Sylvan S. Schwarz, the E. R. Squibb prize of $100 for the greatest proficiency in analytical chemistry during the final year; Henry J. Kuss the Joseph Weinstein prize, a compound microscope awarded by the New York Retail Druggists' Association, for the greatest proficiency in analytical chemistry throughout the entire course; and Miss Yetta Schwartz received the gold medal awarded by Miss Lillian Leiterman, '11, to the graduate maintaining the highest standing among the women students throughout the entire course. Membership in the National and State pharmaceutical associations were awarded by J. Leon Lascoff, a trustee of the college, to the following; A.Ph.A., Henry Taub and Gerschon Cohen; State A.Ph.A., Edward Staloff and Herbert C. Kassner, Harris Peckman received the gold medal awarded by the Italian Pharmaceutical Association for the highest standing in the practical work of the four laboratories of the college, and Samuel Cohen was awarded a year's membership in the N.Y.S.Ph.A. offered by that organization to the member of the honor roll not winning any other prize.

The address to the graduates was delivered by Rev. C. Wallace Petty, D.D of New York City. and the benediction pronounced by Rev. Raymond C. Knox B.D.

The officers of the graduating class were; President, Philip Fleischman; vice-president, Harry Gans; secretary, Rose Lein; treasurer, Ferdinand Monteferrante; Historian, Harry Taub. The list of graduates follows, precedence being given to the names of the twenty young ladies referred to above:

Evelyn Houston Barrette, Ida Chadabe, May Elizabeth Dudleston, Rosalie Esther Gold, Fannie Gordon, Mary Green, Beulah Imber, Isabelle White Johnson, Florence Caroline Lane, Lillie Laplaca, Rose Lein, Anna Levine, Anna Lichtman, Helen Gould McKean, Cecile Mostowitz, Nina Ognibene, Yetta Cecilia Schwartz, Alice Soupine, Sylvia Stieglitz, Nellie Chey Wong.

Fred Alter, Harold Bauman, Morris Berdick, Solomon Bernstein, Carl William Brezovsky, Vincent Calvelli, Vincent Caracciolo, Generous Cardone, Gerschen Cohen, Samuel Cohen, Samuel Cohen, Gordon Leslie Commons, Vivian Kenneth Commons, Louis P. Cutler, Peter De Luca, Abel D del Vecchio, Rizerio J. Diforio, Armand di Geronimo, Max Ehrenberg, Emanuel Eigenmacht, Louis Ensler, Emil Feldberg, Albert W. Finnegan, Nicholas Peter Fiorentino, Gerald Eames Fitch, Philip Fleischman, Daniel Joseph Flynn, Buell Hunt Francisco, Thomas Vincent Gammarano, Harry Gans, James Sherwood Gedney, Willard G. Gibson, Morris Gold, Sidney Goldberger. Herbert Goldman, Arthur S. Goldmeer. Alexander Gottilla, Anthony J. Greco, Fred Guggenbuhl, Salvator Joseph Gullo, William Gibson Hague, Jr., Alfred Golding Hainfeld. John Jacob Heisler, Harry Henken, Max Hertz, Philip Anthony Iorio.

Leon Jaffe, Charles Josephson, Abraham Kanter, Herbert Carl Kassner, Abraham Kohl, William Kropnitsky, Henry J. Kuss, Nathan Lehrhaupt, Bernard H. Levine, Harold W. Levy, Robert Lieberman, Benjamin F. McCabe, Samuel T. McKnight, William J. Macsata, Erminio Magliato, Dave Manashaw, Stephen Mazza. Harry Messing, Humbert G. Miraglia, Bradford H. Monroe, Ferdinand Monteferrante. Joseph Montesano. Thomas Abraham Mosler, Edward Neimeth, James John O'Brien, George D. Owens, Peter Palumbo, Harris Peckman, Chalcedony Pensovecchio, Louis Pontecarvo, Philip Portoghese, Morris Portugal, Rexford Potts.

Abraham Press, Max Prince, Martin Ricklin, Philip Benjamin Roberts, Benjamin Rosenberg, Eugene Rosenzweig, Abraham Sandler, Abraham L. Schein, Louis Schein, Jacob Schwartz, Sylvan Simon Schwarz, William Amasa Seaman, Eugene Marshall Searle. Louis Seides, Hilary Seligman, Daniel Shaw, Samuel Sherman, Aaron Shigon, Louis Myer Siller, Samuel Rosenblum, Sirotae, Alfred C. Synder, Edward Staloff, Louis Steckler, Oscar Stevens, Harry Susman, Abraham Taub, Harry Taub, Abraham Whitcup, George Alexander Wilson, David Wolfe, Morris Wollan, Jacob Wotman.

ST. LOUIS

At the fifty-fourth annual commencement exercises of the St. Louis College of Pharmacy held at Sheldon Memorial Hall, St. Louis, on April 28, the degree of Graduate in Pharmacy was conferred upon a class of 33, and the degree of Bachelor of Pharmacy on a class of nine, by George R. Merrell, president of the college, the classes being introduced by Dean Henry M. Whelpley.

The valedictory address was delivered by Rev. William H. Agnew, S. J. of St. Louis University, who cautioned the graduates against profiteering and urged them to oppose the detrimental use of narcotic drugs. He said in part:

"Because you value their human lives more faithfully than they themselves do, you will often have to oppose the efforts of reckless men and women to capitalize your professional influence to obtain drugs properly banned by law. You will do this because they are injurious alike to physical life and moral character, although they satisfy an unnatural craving developed by vicious indulgence. Again your profession puts you in contact with life's most urgent necessities, the precious things that ward off death and cure disease, the things for which men and women, will give their all and last if it need be. Your future will not be without opportunity to capitalize these urgent necessities for unrighteous gain. All profiteering is ignoble. Profiteering founded on a betrayal of professional trust is doubly damnable."

The silver medal, a college prize, conferred upon a candidate for the degree of "graduate in pharmacy" for a meritorious examination in all branches was won by Julius A. Sanowsky, of St. Louis, and a recommendation for membership in the A.Ph.A., with dues for 1921, given by the college, was awarded to Abraham Lincoln Gasen, of Virden, Ill. Frank C. Parisel. of St. Louis, won the college gold medal conferred upon the candidate for the degree of "bachelor of pharmacy," and Miss Edyth Lovell, also of St. Louis, the silver medal awarded to the member of the same class making the second best examination. Prizes awarded to members of the junior class were as follows: The Edward Mallinckrodt Scholarship, Rachmiel Epstein, St Louis; Meyer Bros. Scholarship, Nathan M. Faber, St. Louis; J. S. Merrell Scholarship, Vernon H. Carter, Bonanza, Mo. Alumni prizes, consisting of a standard work on the subject of pharmacy or allied branches, were awarded to Oliver C. Funsch, of St. Louis, and Paul Taylor Mason, of Winchester, Ill. Degrees were conferred upon the following:

Graduate in Pharmacy: Sulsus E. Belt, Emil M. Birenbaum. Jacob Birenbaum, James L. Brown, Jennings B. Cannon, John M. Contratto, Donald E. Dye, Dennison D. Foster, Abraham L. Gasen, Henry J. Grady, Samuel H. Graves, William D. Harned, Clifton W. Harrington, Abner B. Henderson, Max Hesselberg. Arthur C. H. Hinzpeter, Edward F. Jones, Arthur W. Millinger, Philip Neu, Louis F. Nothaker, Vincent T. O'Brien, Leslie E. Pritchard, Julius A. Sanowsky, Henry P. Schlagenhauf, John A. Schmiemeier, Paul J. Schneider, Carl F. Seidlitz, Ferdinand W. Sennewald, Martin H. Stiften, Herman A. Vogler, Abraham Weiselman, Nathan Wieselman and Charles H. Zimmerman.

Bachelor of Pharmacy: Richard C. Christopher, Miss Ruth H. Crecelius, Miss Edyth Lovell, Ben Novack, Frank C. Parisel, Raymond F. Slieper. Lawrence P. Thesen, Ernest E. Winkelmann, and Hugh E. Wyatt.

On the evening preceding the commencement, the members of the graduating class attended a banquet which was held at the Planters' Hotel, Dean Henry M. Whelpley presiding. Carl F. G. Meyer, president of Meyer Bros. Drug Co., and vice-president of the college, made the presentation address. Among the other speakers were Albert J. Bretscher, president of the Alumni Association, Samuel H. Graves, president of the Omega Phi, Theodore F. Hagenow, president of the N. A. R. D., Prof. Charles W. Johnson, of the University of Washington, Prof. Francis Hemm, Arthur Hinzpeter, Ernest E. Winkelmann, Frank C. Parisel, Miss Ruth Crecelius, and Clifton W. Harrington.

TEACHING PHARMACY IN COLLEGES

Charles F. Nixon, a prominent druggist of Leominster, Mass., and a special representative selected by Louis K. Liggett to investigate the possibility of having more instruction in the commercial side of pharmacy in colleges throughout the country, was in Baltimore recently relative to the mission upon which he is engaged. While there he called upon Dr. Henry P. Hynson, a member of the faculty of the Department of Pharmacy of the University of Maryland, who has also given the subject much thought, although his views take a somewhat different direction.

Dr. Hynson thinks that among the requirements needed by a graduate of pharmacy, who, in the great majority of cases must make his career in a drug store, is knowledge of how to approach customers and take care of their wants. The great body of people care nothing about biology and various other matters, but they do want pharmacists to be able to deal with business problems, such as accounts, credits, and a variety of related details. In a practical way, many of these ideas are in practical accord with those of Mr. Liggett, but Dr. Hynson would have such matters taught in the high school course, so that the student matriculating in pharmacy would be quite familiar with them when he enters upon his professional course of study. Dr. Hynson thinks students should have learned enough Latin before taking a college of pharmacy course to be able to read the average prescription.

PURDUE UNIVERSITY

Graduation day at Purdue University is not far away. The Commencement address will be delivered by Dr. Henry John Cody, recently Minister of Education of the Province of Ontario and a distinguished Canadian, and the Baccalaureate sermon will be preached by Dr. Theodore Gerald Soares, of the University of Chicago. Fifteen persons will be graduated from the School of Pharmacy, four of whom complete the four-year course, and eleven the two-year course. Excepting L. S Troth, who remains to take a Master's degree, all members of the graduating class have accepted positions.

Prof. Charles B. Jordan states that a graduating class ten times as large as the one this year could be placed, as there is a demand for graduates. In the upper classes the school of pharmacy is still feeling the effects of the war, but the Freshman class this year is the largest the school has ever had, and from the inquiries Prof. Jordan has already received from various sections of the State, it is predicted that the incoming class next fall will set a new record.

The annual circular of information concerning the school for the year 1920-21 has been printed and is now being sent to druggists and students throughout the State.

J. B. Burt, enrolled in the school of pharmacy, has accepted a position as instructor in the College of Pharmacy, University of Nebraska.

Miss Rameth Huff will accept a position of pharmacist and physician's technician at the National Home for disabled veterans, Hot Springs, S. D., and Miss Juanita Follett has accepted a similar position in a Chicago hospital.

Dr. R. A. Lyman, dean of the College of Pharmacy, University of Nebraska, was a recent visitor.

G. H. Gift, Ph.G., '08. laboratory director for Parke, Davis & Co., Detroit, recently visited the school in the quest for graduates to enter the employ of that company.

Alumni movements: T. L. Hasbrouck, B. S. '18, formerly assistant chemist in the Coroner's laboratory, Cook county, Chicago, is now with William R. Warner & Co., St. Louis: R D. Johnson, '17, is now pharmacist at the Soldiers' Home, Marion, Ind.: J. L. and W. K. Wendt, '17, have formed a partnership with W. A. Scheddell, Crown Point, Ind., under the name of Scheddell & Wendt Bros.; L. C. Hill, '16, is now superintendent and chief chemist for the Kolynos Dental Cream Co., New Haven, Conn.

Prof. W. F. Gidley presented a paper on "Oral Sepsis" and "Oral Antiseptics" at the recent meeting of the Indiana Section of the American Chemical Society, and Prof. Jordan read a paper on "New Antiseptics" before the Tippecanoe County Medical Association.

HOW GRADUATES CAN WIN SUCCESS

High Position Accorded Pharmacy by Passage of Eighteenth Amendment Emphasized by Speaker at Brooklyn C. P. Commencement Exercises.

The twenty-ninth annual commencement of the Brooklyn College of Pharmacy was held at the Academy of Music in Brooklyn on Thursday evening, May 19th, when one hundred and twenty members of the senior class of 1920 received the degree of graduate in Pharmacy. The presentation of diplomas was by the dean of the college, Prof. William C. Anderson, Ph.G., Phar.D. A large gathering of friends and relatives of the graduates had filled the auditorium for the exercises when the faculty and trustees of the college entered the stage.

The valedictory address, which followed the presentation of diplomas, was delivered by Jacob Blass, who confined his remarks chiefly to the great progress made by American manufacturers of pharmaceuticals during the war and how the class of 1920, when it actively enters the profession of Pharmacy should do all in its power to hold this leadership and maintain the high standards already set for it.

Rev. R. S. Cohen addressed the graduates, pointing out the high position that has been accorded Pharmacy and the new duties and responsibilities placed on pharmacists by the passing of the Eighteenth Amendment. He stated that as the Government had ruled the drug store to be the one place where liquors for medicinal use can be procured, it was the solemn duty of every druggist to solemnly comply with the regulations to the fullest extent. The members of the class of 1920, he said, entering their chosen field, should realize to the fullest extent the new responsibilities thrust upon them and should strive at all times to live up to the highest ideals and perform their duties in the most efficient and conscientious manner possible.

The compounder of medicinals, Rev. Cohen continued, can only win success—real success—when he has satisfied himself that he has performed his duties to the best of his ability and adhered closely to the laws and regulations laid down for him.

George R. Christ, president of the college, awarded the prizes as follows: 1st prize, gold medal, for best general standing and highest average throughout the year, to Miss Marie C. Von Scheidt. Miss Von Scheidt won the silver medal last year for the highest standing in the junior class. 2nd prize, silver medal, to Wm. N. Weissberg; 3rd prize, Solomon Friedman; prize for highest standing in practice of Pharmacy, Israel Seligman; membership in New York Pharmaceutical Ass'n, awarded for highest standing in scientific subjects, to Abraham Rifkin; membership in A.Ph.A., for general efficiency, to Abraham Saperstein. Silver medal for highest general average in the junior class, to Samuel Miller.

Theo. Charles Niehus, Ph.G., president of the alumni association, awarded the alumni prize, a handsome microscope, to Harry Schwartz.

Prof. A. Percival Lohness, Ph.G., Phar.D., secretary to the faculty, read the names of the honor students, of both the senior and junior classes, listing students whose general average for the year was more than 90 per cent. The program of the evening was interspersed with musical selections by the festival quartette, which were greatly enjoyed, and exercises were concluded by the distribution of floral gifts.

The list of graduates in Pharmacy follows:

Nathaniel Agris, Beatrice S. Banzer, Pearl Barkan, Kenneth A. Baumann, Celia Belikoff, Morris Bioyarsky, Minnie Blank, Jacob Blass, Miriam Block, Leonardo Bondi, Robert Burg, Calogero Buscemi, Philip Butofonco, Isidor Cantor, Samuel Carch, Julius Cavazzi, Charles Chaber, Henry Cherneff, Samuel Cohen, William Cooper, Joseph Coppell, Louis H. Cure, Sarah Damsky, Anthony Donza, Nathan Dunner, Morris Erger, Abraham Feldman, William Aaron Feldman, Ida Flomenbaum, Israel Frankel, Solomon Friedman, Samuel Gerber, Simon Philip German, Anthony Getz, Matthew Getz, Reva Ginsberg, Abraham Gold, Isaac Goldstein, Abraham Goodman, Oscar Gottheim, Isidore Greenblatt, Benjamin Grossman, Jacob Guze, John M. Hahn, Harry Halpern, Boris A. Haykin, Lillian Heiden, Charles A. Herb, Samuel Hutt, Rose Hutterer, Charles Joondeph, Louis W. Kaner, Samuel M. Kaplan, Isidore J. Karachunsky, Samuel Karpman, Yetta Kaslofsky, Jennie Katz, Solomon Katz, Morris Kelmenson, Hyman Sam Kessler, Abraham Kitzes, Isaac W. Kopman, Eugene Kovacs, John Kovacs, John Alfred Krieter, Walter A. Kruger, Alfred Lefand, Charles H. Leopold, Morris Lerner, Samuel E. Levine, Max Loorie, Edward Mafera, Morris M. Malamed, Stellario Marchese, Joseph Marino, Virgilio Marino, Allison William Marsland, Joseph Mennen, Theodore Miller, Solomon C. Mindlin, Paul Mitchell, Harry Obstgarten, William Peltz, Max Pomerantz, Atlee H. Potter, David Reich, Abraham Rifkin, Louis Rollo, Herman Rosenbaum, Harry Rosenzweig, Clara E. Rubinroth, Alfred T. Salzman, Abraham Saperstein, Peter Schafer, David Schlyen, Oscar Schneider, Harry Schwartz, Israel Seligman, Henry A. Shaynkin, Anna Shatanoff, Michael Shpiesel, Manuel Simon, Aaron Sliptzin, Harry Solodar, Herman D. Solow, Isidor L. Sommer, Meyer S. Spector, Aaron Suchuff, Philip C. Tames, Jesse Tausig, Herman Elias Taylor, Joseph Telsey, Edward A. Thanz, Abraham Tobin, Benjamin Tractenberg, George Henry Volz, Marie C. Von Scheidt, William N. Weissberg, Solomon A. Zarchy, Philip Zwitman.

The annual meeting of the Alumni Association and reception to the Class of 1920 were held at the Brooklyn college Thursday, May 20.

SOUTH DAKOTA STATE

A poisonous plant garden will be established at South Dakota State College, Brookings, during the coming summer for the purpose of making a study of the poisonous plants of the State. This project is the outcome of a suggestion made at the recent annual convention of the graduate veterinarians of the State, who are especially interested in the subject because of the livestock losses due, in part, to lack of sufficient knowledge of such plants on the part of persons in charge of the ranges.

As stated in the May issue of the Era, the garden is to be established under the direction of Anton Hogstad, Jr., instructor in the School of Pharmacy, who has developed the medicinal plant garden of the school, who will have associated with him, Dr. C. C. Lipp, Director of the animal health laboratories of State College, and thus broaden the scope of the work.

The task of collecting these seeds and plant materials is a difficult one, as they cannot be purchased through the various seed houses, there being no commercial demand for seed or plant materials of this kind. For this reason the school appeals to the people of South Dakota to render all possible assistance in the way of furnishing seed and plants and giving information to aid in the development of the garden.

E. C. Bent, the veteran secretary of the South Dakota Board of Pharmacy, who attended the recent examination of the board held in Brookings, complimented the school of pharmacy on its work, and said that it was having a splendid effect on the profession in the state.

UNIVERSITY OF ILLINOIS

Among the special lectures arranged for the senior students this session was an interesting discussion by A. E. Anderson, city chemist of Moline, concerning the work of a city chemist in one of the smaller cities. Mr. Anderson is an alumnus of the school, class of 1914, and has done very good work in Moline, especially in connection with the reduction of the typhoid death rate in that city.

On Tuesday, May 11, the members of the senior class visited the pharmaceutical manufacturing plant of Bauer & Black as guests of the firm. Among the operations witnessed were the manfacture of absorbent cotton and various medicated plasters, gauzes and dressings.

Prof. A. H. Clark spoke before the Medical Research Club of the University of Illinois at the College of Medicine recently on "The Work of the Council of Pharmacy and Chemistry of the American Medical Association."

John Blocki, of John Blocki & Son, perfumers, Chicago, has presented the school with a musk pod, the follicle in which musk is secreted by the musk deer. These pods are now seldom seen in commerce, for, in order to lessen the opportunity for adulteration, the musk is usually imported in the granular form. Mr. Blocki has also given the school two containers of East Indian buffalo horn in which civet is packed and has accompanied these with an essay upon musk and civet. Some time ago he gave the school a small copper model of the still used in distilling oil of rose in the Kizanlik District of Bulgaria, also several of the tinned copper containers in which oil of rose is imported. These interesting objects have been added to the pharmaceutical museum.

Eight members of the senior class of the University of Illinois School of Pharmacy journeyed to Springfield recently to take the State examination for registered pharmacist. Seven were successful. They are: V. S. Connelley, C. F. Haselberger, E. C. Higgins, W. G. Koshler, E. V. McLaughlin, Cyrenus Sickman and A. F. Vendracek. A larger number are planning to take the June examination.

HOW PROPRIETARY TAX IS RECKONED

The Bureau of Internal Revenue has issued a statement advising dealers and purchasers of toilet articles and proprietary articles that the tax of 1 cent for each 25 cents or fraction thereof of the amount paid is on the article itself and not on the total amount paid by the customer when two or more such articles are purchased, unless of the same kind and put up by the manufacturer in a single container for sale as an original package. If a tube of tooth paste costs 35 cents and a bottle of perfume 65 cents, the tax is 2 cents on the tooth paste and 3 cents on the perfume, a total of 5 cents and not 4 cents as computed on the total amount paid by the purchaser. If toilet powder sells at 10 cents a box, the tax is one cent; if two boxes are bought the tax is two cents, although the total amount paid by the purchaser is 20 cents; and if three boxes are bought for 25 cents, the tax is 3 cents. If, however, six boxes of toilet powder selling singly at 10 cents each are put up by the manufacturer in a container or sealed package for sale as a unit and are sold by the dealer as an original package for 50 cents, the tax is 2 cents, the package being the unit of sale.

The regulation providing that where two or more packages of cough drops are sold for 25 cents the tax shall be 1 cent is revoked, the tax being at the rate of 1 cent for each 25 cents or fraction thereof of the amount paid for a single package.

NEW RULING ON STOLEN ALCOHOL

When alcohol lawfully owned by wholesale druggists or others is stolen in transit, it is the custom of many collectors of Internal Revenue to assess a tax of $4.20 per proof gallon against the owner of the spirits, this tax being the difference between the amount of the non-beverage alcohol rate of $2.20 per proof gallon and $6.40, the beverage rate as imposed by the Revenue law of 1918. The National Wholesale Druggists' Association takes the stand that this penalty is not authorized except when there is proof that collusion existed between the owner and the person stealing the alcohol. This contention is upheld in an official ruling by Prohibition Commissioner Kramer which is given in full in a bulletin issued by the Association, and was based on an actual case presented by the Association's representative in Washington, the claim being made that the owner of the alcohol did not possess it unlawfully, the only condition in which the beverage tax rate could properly be made to apply.

DRUG TRADE RELIEF FUND COMMITTEE

A drug section of the Greater New York Fund for the relief of sufferers from famine and destitution in the war-ridden countries has been formed, and it is hoped that the drug fraternity will be well represented. All the various commercial organizations of the city are contributing to this good cause, and it is expected that pharmacists, under the leadership of J. Leon Lascoff, who is chairman of the General Committee, will take a leading part in this endeavor and reflect credit on the profession. The other members of the committee are:

New York Branch A. Ph. A.—A. Dorb, Clarence O. Bigelow, Robert McCutcheon, Dr. J. Diner, Dr. J. Mayer, R. Gerstner; New York County Pharmaceutical Assn.—H. Walters; New York R. D. A.—M. Rosenberg; Bronx Pharmaceutical Assn.—M. Zagat; Italian Pharmaceutical Assn.—Mr. Wilhelmina; Kings County Pharmaceutical Assn.—George R. Christ; Upper Manhattan Pharmaceutical Assn.—I. Moes.

Brooklyn and Staten Island will be also taken care of by a special committee, and in the meanwhile J. Marinoff, with the assistance of Dr. Joseph Mayer, will cover that territory. The Bronx district is under the leadership of Drs. Jacob Diner and George Hohmann. Paul Baerwald, of 389 Fifth avenue, New York City, is treasurer of the fund.

NOW HEADS RHODE ISLAND COMMISSION

Raymond C. Colwell, who has just succeeded Frank A. Jackson as chairman of the Rhode Island State Food and Drug Commission, is a specialist in sanitation, public health work, and the bacteriological examination of foods. He entered the army as a private in the Sanitary Corps in 1917, was promoted first lieutenant and as a result of research work while with the A. E. F. in France, demonstrated that there are at least two etiological factors in typhoid epidemics. He graduated from Brown University in 1913, from which two years later he received a Master's degree for work in bacteriology and physiology. The office which he assumes carries a salary of $3,000 a year.

ELECTION AT THE CHEMISTS' CLUB

The Chemists' Club held its annual election on May 5 at the club house, 52 East Forty-first street, New York, with the following result:

President, Ellwood Hendrick; vice-president (resident), Wm. F. Hoffmann; vice-president (non-resident), Victor G. Bloede; secretary, J. R. M. Klotz; treasurer, Henry M. Toch; trustees to serve three years, F. J. Metzger and T. R. Duggan.

Educational Department

Devoted to Information, Criticisms and Suggestions on Pharmaceutical Topics of Special Interest to Era Course and Other Students.

Conducted by C. VERNE NICHOLS, Ph.C., B.A., M.S., Director of the Era Course in Pharmacy.

WRITE TO THE DIRECTOR FOR AID

A number of students enroll in the Era Course in Pharmacy, receive the first two Parts of the Lectures sent to them, and apparently make no attempt to go further. Whether this is due to a waning enthusiasm or to inability to comprehend the Lectures causing the student to become discouraged, we cannot be sure. Students who have a real desire to learn pharmacy should not lose their enthusiasm and become disheartened because some point arises which they are unable to master immediately. Try once, try again, and keep on trying, and if then you cannot understand the lesson write for an explanation to the director. We are writing students from whom we have received no recitations encouraging them to make an extra effort to master the Course. Write and ask for aid on any point about which you are in doubt and we will help you to overcome the difficulty.

Part II

Part II, dealing with Organic Chemistry has just been revised and will be ready for mailing in a very short time. A great deal of care has been exercised in this revision to bring it up to date. The numerous experiments continually being carried on with organic compounds make it necessary to expend a great deal of thought and time in arranging, eliminating, and condensing the available material so as to present the facts that are really the most necessary for the pharmacist to know. Those wishing to keep their set of the lectures of the Era Course up-to-date may obtain this revised edition of Part II for the sum of $1.00. Send money order to D. O. Haynes & Co., 3 Park Place, New York, and a copy will be mailed to you.

CLEAR UP EACH MISUNDERSTOOD POINT

The director of the Era Course in Pharmacy is always ready to explain points about which the student is in doubt. It is better for the student to have a thorough understanding of a point before he attempts to write his recitations than to attempt an explanation of a subject about which he is confused. He not only shows by his recitations that he has not comprehended the text but also he lowers his recitation grade, which in the end lowers his graduation average. There is, however, a greater harm done than the lowering of the student's percentage. The point oftentimes remains obscure, and as he continues his studies, he is unable to grasp the problems dependent upon the misunderstood point; the student becomes discouraged and gives up the Course. Clear up each point as you come to it and those following will take care of themselves.

FERROUS AND FERRIC COMPOUNDS

A number of students seem to have difficulty in writing correctly the formulas for ferrous nitrate and ferric hydroxide. In ferrous compounds iron is bivalent, while in ferric compounds it is trivalent. A bivalent element can replace two atoms of hydrogen in acids. Now, since nitric acid, from which all nitrates are derived, is a monobasic acid; that is, contains only one replaceable hydrogen atom; an atom of bivalent iron can replace the hydrogen of two molecules of nitric acid. The equation representing the action of nitric acid on iron would be:

$$Fe+2HNO_3=Fe(NO_3)_2+H_2$$

and the formula for ferrous nitrate is $Fe(NO_3)_2$

By similar reasoning we can obtain the formula for ferric hydroxide. A trivalent element can replace three atoms of a monovalent metal in alkaline hydroxides. Ammonium hydroxide, from which ferric hydroxide may be made by reacting with a ferric salt, being monobasic, an atom of trivalent iron can replace the ammonium of three molecules of ammonium hydroxide. The equation representing this reaction is as follows:

$$\underset{\text{Ammonium hydroxide}}{6NH_4OH} + \underset{\text{Ferric salt}}{Fe_2(SO_4)_3} = \underset{\text{Ammonium salt}}{3(NH_4)_2SO_4} + \underset{\text{Ferric Hydroxide}}{2Fe(OH)_3}$$

, and the formula for ferric hydroxide is $Fe(OH)_3$.

RECENT ERA COURSE GRADUATES

Matriculation Number		Graduation Average
10,648	L. A. Andrews	90%
10,899	Walter O. Clayton	84%
10,785	Milton T. Cornish	95%
10,712	Sister Mary Faustina, O. S. F.	94%
10,978	Haliey C. Huey	95%
9,973	Ralph Wesley Howe	97%
10,851	Oran E. Massengill	85%
10,339	Morris B. Podnos	98%
10,342	Olive E. Rivers	95%
8,834	Isaac S. Weidman	88%

QUERIES ANSWERED

Questions answered under this caption are of a general nature and are numbered consecutively, beginning with the issue of the Era for November, 1918.

357. What are four classes of volatile oils and name an oil which is representative of each class covered by this classification.

(1) Terpenes, consisting of carbon and hydrogen, mostly with the formula $C_{10}H_{16}$. (2) Oxygenated oils or hydrocarbons containing oxygen, (3) sulphurated oils, containing sulphur, and (4) nitrogenated oils, a small class containing hydrocyanic acid. Oils representative of each class are (1) oil of turpentine, (2) oil of cinnamon, (3) volatile oil of mustard, and (4) oil of bitter almond.

358. What is keratin? For what is it sometimes used in pharmacy?

Keratin is the name applied to the substance constituting the bulk of horn, hair and epidermis. It is prepared for use by digesting the parings of horn or similar material with pepsin and hydrochloric acid, or acetic acid, for a sufficient time, and evaporating the solution. It is sometimes used for coating enteric pills.

359. What are four synonyms for ammonium carbonate?

Baker's salt, subcarbonate of ammonia, sal volatile, and sal fuliginis.

360. What are four substances which liquefy when

triturated with (a) thymol? (b) pyrogallol? (c) antipyrine? (d) resorcinol?

(a) Acetanilid, antipyrine, camphor, phenol. (b) Antipyrine, phenol, menthol, urea. (c) Beta-naphthol, pyrogallol, phenol, resorcinol. (d) Acetanilid, camphor, phenol menthol.

361. What official tincture employs in the process of manufacturing the largest quantity of drug per 1,000 mils?

Tincture of lemon peel, 500 grams.

362. Name five official tinctures made by percolation from drugs reduced to No. 60 powder.

Tinctures of hydrastis, hyoscyamus, digitalis, belladonna leaves, and aconite.

363. What is the difference in chemical composition between blue vitriol and verdigris?

Blue vitriol is made on a large scale, either from copper pyrites, or by dissolving cupric oxide in sulphuric acid, evaporating and crystallizing the solution. The official salt is indicated by the formula, $CuSO_4.5H_2O$. Verdigris is the subacetate or oxyacetate of copper, $Cu_2O(C_2H_3O_2)_2$, obtained by the action of dilute acid and atmospheric air on metallic copper.

364. What is the source of the ammonia used in making nearly all of the ammonium compounds on the market and how is it produced?

Nearly all of the ammonium compounds are made from ammonia produced in the manufacture of coal gas. Coal is heated in retorts whereby the nitrogen of the coal is converted into and liberated as ammonia gas, which is absorbed in the water through which the gas is made to pass.

365. What substances other than purified talc have been employed to effect solution of volatile oils in the manufacture of medicated waters?

Paper pulp or shredded filter paper, precipitated calcium phosphate, magnesium carbonate, kaolin, powdered pumice stone. The use of paper pulp or purified siliceous earth are permitted by the Pharmacopoeia.

366. What is a good drying agent for moist ammonia gas? Give reason for such an answer.

Soda lime is the substance generally used, as there would be no chemical reaction take place. Sulphuric acid, which is usually used for drying gases, cannot be used in this instance, as it would immediately unite with the ammonia, forming ammonium sulphate. Calcium chloride cannot be used, as it forms chemical compounds with ammonia.

367. What methods are employed for the preparation of official medicated waters? Give the full Latin title of a water made by each of the methods.

Four methods are employed in preparing official waters; By agitating the medicinal ingredients with cold water, example—aqua chloroformi; by passing gases through water, example—aqua ammoniæ; by triturating essential oils with purified talc and water, example—aqua menthæ piperitæ; and by distillation, example—aqua aurantii florum fortior.

368. What pharmacopoeial substance is said to be (a) a mixture of alkaloids; (b) the hydrochloride of an alkaloid prepared by the abstraction of one molecule of water; (c) the hydrochloride of an artificial alkaloid?

(a) Veratrine; (b) apomorphine hydrochloride; (c) hydrastinine hydrochloride.

369. What is pelletierine tannate and what is the official average dose?

A mixture in varying proportions of the tannates of four alkaloids obtained from the bark of pomegranate and known as punicine, iso-punicine, methyl-punicine, and pseudo-punicine. Official average dose, 4 grains.

370. What are four official oils expressed from seeds? Castor oil, croton oil, cottonseed oil and linseed oil.

371. What method would you employ for dispensing powders in capsules?

The powders after being accurately divided by weighing should be filled into hard gelatin capsules. If desired, the capsules may be hermetically sealed by placing the caps on filter paper saturated with water, for a few minutes, and then slipping the cap on the capsule and allowing to dry a few minutes in the air before dispensing it.

372. What is burnt or dried alum?

Alum heated or dried until it contains not less than 96.5 per cent of anhydrous aluminum and potassium sulphate or of anhydrous aluminum and ammonium sulphate, the label of the container indicating whether it is made from Ammonium Alum or Potassium Alum.

373. What is gallic acid and how is it obtained?

An organic acid usually prepared from tannic acid by treatment with diluted sulphuric acid at a boiling temperature. The mixture is then strained, cooled and set aside to crystallize. The crystals are then redissolved, the solution decolorized and again allowed to crystallize. Gallic acid is also manufactured from nutgall.

374. What effect has heat upon gallic acid?

When heated from 200° to 210° C., gallic acid splits up into pyrogallol and carbon dioxide, thus, $C_6H_2(OH)_3COOH + (heat) = C_6H_3(OH)_3 + CO_2$.

375. What reaction takes place in the preparation of the official pills of ferrous carbonate?

In the manufacture of pills of ferrous carbonate granulated sulphate of iron and potassium carbonate are employed. When these two substances are brought together ferrous carbonate is precipitated according to the following equation: $K_2CO_3 + FeSO_4 = FeCO_3 + K_2SO_4$.

376. What is the reason for the pharmacopoeial instruction to wash with a mixture of syrup and water the precipitate formed in making mass of ferrous carbonate?

To prevent the ferrous carbonate, which is a very unstable substance, being converted by action of the atmosphere into red-brown subcarbonate of iron which is a mixture of ferrous carbonate of iron and ferric oxide. In the presence of saccharine matter this change is retarded, and this also explains why the finished product is preserved with sugar and honey.

WHAT ERA COURSE IN PHARMACY OFFERS

In these times when the almighty dollar means so much to all of us, we are looking for ways and means of making ourselves more valuable. The Era Course in Pharmacy offers this opportunity by providing a rapid and efficient method of obtaining a thorough technical knowledge of pharmacy. To the drug clerk, bewildered by the great variety of drugs, chemicals and apparatus in the drug store, to the hospital apprentice and steward in the Army and Navy, to the dispenser in the hospitals throughout the Country, the Era Course in Pharmacy fills a long felt need.

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The Director of the Era Course in Pharmacy
3 Park Place, New York City.

Boards of Pharmacy

NEW JERSEY BOARD'S ACTIVITIES

The report of the New Jersey Board of Pharmacy for the year ending October 31, 1919, presented to the Governor, relates that conditions have completely changed in the State from those obtaining during the previous year when the war was still on, and that the supply of skilled pharmacists and assistants has greatly improved. For this reason there has been a return to more rigid enforcement of the pharmacy law, a greatly increased number of inspections having been made than in any previous year. These inspections covered not only pharmacies, but other stores in general, the proprietors of which do not fully understand the purpose and scope of the pharmacy law. A schedule of poisons and antidotes authorized by an amendment to the pharmacy law during the year has been prepared and will be distributed in the near future. During the year 463 applicants for registration as pharmacists were examined, 118 being successful, and 125 applicants were examined as assistant pharmacists, 68 being successful. Applications for reciprocal registration were received from registrants of seventeen different States and the District of Columbia, such registration being granted to fifty-seven applicants.

The Board recommends an amendment to the pharmacy law which will provide a per diem compensation for the services of its members. Heretofore these have served without remuneration, but owing to the increased work of the Board, and the demands now made upon their time, they believe they should receive an allowance equal to that granted by New York and Pennsylvania, or $10 per day. The report states that since the board has always been self-supporting, such an allowance will not mean an added expense to the State. An amendment to the law relative to the provision which requires that all funds in excess of $100 must be paid into the State Treasury each month is recommended. This requirement, it is stated, is unbusinesslike in that it does not afford time for wise and consistent planning of the use of funds in the work the Board is required to do, and therefore the law should be modified to permit the retention of a balance of $500, and if possible, payment of excess balance into the State Treasury at the end of the fiscal year.

NEW YORK

Registration has been granted to the following successful candidates at the examinations held by the Board of Pharmacy in January as pharmacists:

George H. Sciolino, Louis Reisman, Mildred I. Potter, Merton R. Parmenter, Joseph Markowitz, Joseph J. Viscardi, William J. Bonisteel, Mary Rothstein, Anthony P. Koch, Nicholas Margiotta, Samuel Harrison Oxman, Hyman Weiner, Abraham Eastman, Jacobo Simonet, John H. Andolschek, Harry Berger, James P. Cloherty, Clarence R. Ellingham, Frank Ruby, Evelyn M. Drefs, James F. Watts, Raymond F. Clemens, Pasquale Acampora, Nathan Alpern, Albert Braunreuther, S. Gregory Allen, M. Donna Sharpe, Robert R. Lavine, Eliot L. Marcus, Samuel Cohen, Matthew V. Boutte, Aaron Mazeloff, Marshall V. Hawkins, Ezra Lipschitz, Warren Volpert, Harry Margolis, Bernard J. Ellnor, David Ackerman, Charles A. Pumo, Benno Eidinger, Marcial Grau, Frank A. Rinaldi, Ralph N. Ferguson, Fred Fuchs, James A. Ianne, Emanuel Levy, Herman S. Abelman, Joseph Aclander, James G. Blaso, Antonio N. Conti, Jacob Cooper, Lawrence Cutler, William Ginsberg, William P. Greaves, Herman S. Gumanow, Ezra C. Hallenbeck, Zelik Kaminsky, Louis Kaufman, Jacob D. Langer, Edward E. Lo Porto, Edward H. Meister, Samuel Moglieleff, Rebecca Ochert, Samuel Polsky, Joseph F. Schepis, Yetta Seligman, Charles Shavel, Jacob Tager, Nathan Tischelman, Joseph Weinberg, Solomon Wetchler, Samuel Cooperman, Louis Garil, William B. Ginsberg, Meyer Greenberg, Louis Gussow, David Kalkstein, Benjamin C. Katz, Rudolph Krepela, Samuel Liebman, Abraham Lundin, Rebecca J. Miller, Francis J. Musso, Joseph Poll, Joseph G. Rudmann, Leo Schultz, Leon A. Serota, Michael Spina, Henry F. Tartaglia, Simon Tomashoff, Sidney Weinstock, Joseph Wildman.

Junior Pharmacists: Esther F. Blizard, Vincent Fulco, Anthony Drago, Otto E. Lange, Louis E. Weber, Sarah R. Feldman, Mary Rothstein, Joseph R. Altman, Joseph Brill, Abraham Levin, Fred Spivak, Philip Kohnberg, Irving Hubert, David Hashkowitz, Benjamin Rosenberg, Abraham Baiser, William Silverstein, Irving Arber, Samuel Graco, Reuben Tepper, Santi Ruisi, Samuel Strachman, Lena Katz, Harry Winkler, Benjamin Bergman, Harry Leshofsky, Morris Asnis, Frank A. Rinaldi, William J. Richman, Gerard A. Satriale.

Druggists: Maurice Feibish, Ernest Trotter, Benjamin Cohen, Robert Grassi, Harold B. Carncrose, Francis J. O'Brien, Isabella Mary Purner, William McKinley Van Slyke, Hyman W. Stern, Clarence L. Back, Leslie C. Edsall, Macey Kantz, Charles Parisi, George G. Cooley, Edward L. Wesley, Stephen R. Tavano, Leonard J. Heimerle, Edward J. Kenline, Allen W. Folts, James M. J. Mulroy, Frank M. Whalen, Raymond P. Chrisler, James Luke Swartz, Edmund C Rosenkrans, William H. Brossway.

KENTUCKY

At the meeting of the Kentucky Board of Pharmacy held in Louisville on April 13, 14 and 15, a class of 46 applicants for registered pharmacist and 21 for assistant was examined. The following were successful:

Registered Pharmacists: Raymond Atkins, Louisville; Orie Lee Baldwin, Covington; Albert E. Ely, Louisville; John S. Goins, Louisville; John A. Goodman, Jr., Elkton; Thos. Grady Griffin, Louisville; William G. Harreld, Lewisport; Randolph L. Hertel, Louisville; Robert Humphreys, Mayfield; Harry I. Jackson, Mt. Sterling; Scott W. Johnson, Louisville; Christ F. Kilgus, Louisville; Oscar A. Kirby, Louisville; John A. Grieger, Louisville; Chas. J. Osterholt, Louisville; Thomas C. Pryse, Beattyville; Paul W. Shaw, Louisville; Eugene E. Speer, Owensboro; Oscar B. Turnbow, Hazel; C. Earl Venable, Bowling Green; William H. Watson, Frankfort, and Ewing L. Wright, Charleston, W. Va.

Assistant Pharmacists: Louis A. Abbott, Louisville; Paul B. Davidson, Louisville; Robert A. Gayle, Frankfort; Carl Mason Greenup, Frankfort; Leo C. Hoben, Hardinsburg; Frederick L. Kuhn, Louisville; F. C. McGuire, Louisville; James B. Overstreet, Louisville; Monroe F. Porter, Manchester; Louis A. Rompf, Louisville; Jack J. Schuchter, Newport; J. William Shaperio, Lockland, Ohio; Chester Bryant, Augusta; R. M. Crooker, Louisville; Nathan A. Frankel, Louisville; Elmer L. Glaser, Newport; King D. Hughes, Sturgis; David W. Jackson, Jr., Louisville; James A. Mahoney, Cincinnati, Ohio; S. Kyles Morris, Louisville; Raymond J. Poynter, London; William H. Settle, Louisville, and Harry W. Venable, Bowling Green.

The next meeting of the Board will be held in Lexington, on July 13 and 14.

VIRGINIA

At the annual meeting of the Virginia Board of Pharmacy held at Richmond on April 27-29, the following officers were elected: President, W. L. Lyle, Bedford; vice-president, H. C. Littlejohn, Leesburg; secretary-treasurer, A. L. I. Winne. All of the members of the board were in attendance, as also W. D. Clark, of Portsmouth, newly appointed member who succeeds Jno. E. Jackson, of Tazewell, whose term of office has just expired.

More than fifty applicants took the examinations which were held on Tuesday and Wednesday of the same week in the Medical College of Virginia, the following applicants being successful:

Registered pharmacists: Henderson S. Frazier, Norfolk; R. Carlisle Gilliam, Chuckatuck; Joseph E. Burns, Goldston, N. C.; Morris Phipps, Clintwood; LeRoy B. Riddle, Portsmouth; Benj. E. Burnett, Altavista; Russell E. Lee, Danville; Robert C. Jackson, Tazewell.

Registered assistant pharmacists: Mason E. Lee, Portsmouth; K. W. Furbush, Roanoke; Harry S. Seymoure, (colored), Washington, D. C.; Oscar D. Derr, Roanoke; Eugene B. Witten, Richmond; Harry W. Brown, Buena Vista; Paul A. Walker, Baltimore, Md.; Alfred N. Martin, Gordonsville; Charles Harold Spiggle, Woodstock, H. C. Seawell, St. Pauls, N. C.; J. W. Maupin, Jr., Charlottesville.

The following received certificates by reciprocity; J. A. Mease, Jr., from Iowa; Ed. R. Stabler, from Massachusetts; Henry C. Hardy, from District of Columbia; Albert Y. Masters, from Alabama; Andrew J. Deas, from Georgia.

ILLINOIS

The Professional Committee for Pharmacy of Illinois held an examination in Springfield on April 14-16, at which the following applicants were successful:

Registered pharmacists: Arthur Arnopol; Abraham W. Ballin; Walter H. Dimond; Fred C. Dinse; Leon B. Fox; David Gordon; Arthur P. Gronan; Philip Guerrier; Chas. J. Hartley; Chas. F. Haselberger; Carrie L. Henderson; Edward C. Higgins; Edward W. Keefrey; Andrew W. Kunkel; Chester J. Kleczewski; Armin F. Maag; Ivan T. Matthei; Elmer W. McLaughlin: Horace Neely; Louis Neer; Hubert F. Owens; Enrico F. Rocco; F. Rongetti; Mrs. Ruth Rose; Rose S. Ruder; C.L. Sickman; Vincent Zahajkiewicz, all of Chicago and Elmer C. Ahlgren, Rockford; Emanuel F. Budnick, Lemont; John R. Colver, Carlinville; Virgil G. Connolly, Mt. Pulaski; Solomon J. Cowin, Maywood; Henry D. Cronin, Lincoln; Charles B. Deering, West Frankfort; R. L. Ellis, Springerton; Clarence Feuerbacher, Lincoln; August W. Gossman, Pana; A. V. Isaacson, Danville; Walter G. Koehler, Kankakee; George S. Lewis, Antioch; Robert Logan Moore, Freeport; Charles E. Mullany, Springfield; Gerald L. McDaniel, Taylorville; Mark E. Neville, Waukegan; C. Willis Olander, Rockford; Albert F. Vondrasek, Cicero; Sherman E. Wickwire, Byron; Arthur R. Wright, Paris.

Local registered pharmacists: Ernest R. Hinkle, West Point; Gleen V. Steiner, Minier.

Assistant pharmacists: Abraham W. Ballin; Max Ballin; James B. Berardi; John M. Carden; Gerald S. Chapman; Fred C. Dinse; John Gabric; Max Goldman; Carrie L. Henderson; Casimir Jankowski; Joseph F. Lindauer; Isadore Mitnick; Paul M. Overaker; Edward M. Probert; Samuel Reisman; Edward P. J. Seuring; Florence E. White; all of Chicago and Elmer C. Ahlgren, Rockford; Frederick S. Barnard, Alton; Chas. B. Deering, West Frankfort; Leslie V. Fay, Dwight; Richard B. Fulks, Beardstown; Joseph S. Gleason, Bloomington; Clarence H. Graham, Carlinville; Bley C. Grant, Worden; Sister Roselle Knepler, Springfield; Sister Lutgardis Moeri, Springfield; Lorenzo J. Swanson, Spring Valley; Lester J. Welkos, Waukegan.

The next examination for registered pharmacists will be held in Chicago on Wednesday, June 16 in Room 1006, City Hall, at 9 o'clock in the morning. An examination will be conducted at the same place on Thursday, June 17 for applicants for assistant pharmacist. Applications and affidavits, properly sworn to before a Notary Public, together with required fee must be on file in the secretary's office at least ten days prior to the date of examination.

MARYLAND

The Maryland Board of Pharmacy recently sent out a circular letter calling attention to the pre-requisite requirements of the pharmacy law passed by the last General Assembly of the State, which becomes effective on June 1, 1920. Hereafter all applicants to be eligible to examination for registration as pharmacists must be at least 21 years of age, of good moral character, shall have completed a standard four year high school course, shall be a graduate of a school or college of pharmacy approved by the board, and have had four years' practical experience in a pharmacy where physicians' prescriptions are regularly compounded. Time in attendance upon a recognized school or college of pharmacy not to exceed two years may be deducted from the four years' practical experience otherwise required. Applicants for registration as assistant pharmacist must not be less than 18 years old, shall be of good moral character, have completed two years of standard high school work or its equivalent, and have attended an approved school or college of pharmacy for one full session of not less than eight months and be in good standing therein. They shall also have had two years' practical experience in a pharmacy.

A clause in the new law provides that any one who was registered as an assistant under the old act prior to June 1, shall have the right to examination as a full registered or assistant pharmacist without reference to the pre-requisite requirement. The examination held on May 26 and 27 was the last to be scheduled under the old law, and all future tests will be conducted under the new statute.

MISSOURI

At the recent examination of the Missouri Board of Pharmacy held at the College of Pharmacy, Kansas City, certificates were granted to the following successful applicants:

Registered Pharmacists: Cleo E. Agee, King City; H, B, Ball, Holden; Clarence H. Barr, St. Joseph; A. B. Cantwell, Bucklin; C. E. Fowler, Plattsburg; Geo. N. Green, Kansas City; Jesse L. Horak, Mexico; Ben H. Howell, Hannibal; Phillip B. Johnson, Kansas City; Roger Q. Jones, Sweet Springs; Thomas Nelson, St. Joseph; Elda A. Riggs, Canton; T. G. Riffie, Maysville; Walter J. Smith, Kansas City; A. C. Sharp, Sheridan; Clarence J. Strub, Brunswick; Clyde T. Snodgrass, Eldorado Springs; S. S. Scheldrup, Pierce City; H. A. Thomas, Kansas City; D. D. Wright, Kansas City.

Assistant Pharmacists: F. H. Armbruster, Madison;

T. A. Bolar, Bethany; Frank V. Border, St. Joseph; Mark Butler, Bethany; Edwin L. Cullum, Unionville; James Mack Davis, Carthage; Laura Felsing, Kansas City; Oscar Ferril, Kearney; Joseph G. Fridley, Kansas City; Levi Ferril, Kansas City; Chas. Fabian, Kansas City; Genevieve Hines, Carthage; Carl P. Honer, St. Louis; Arthur F. Hallen, Woodstore, Kansas; Geo. A. Hofer, Kansas City; Ethelyn Hendren, Polo; Otis Lee Humes, Kansas City; Robert Lee Johnson, Weir, Kansas; Robert B. Johnston, Monett; O. D. Knauss, Kansas City; Abe Kelner, St. Joseph; Floyd W. La Due, Palmyra; Boyce T. Lackey, Doniphan; Hugh O. Marshall, Kansas City; Clarence F. Mitchell, Excelsior Springs; Daniel A. Marsh, Kansas City; J. L. Morehead, Wichita, Kansas; Donald P. Moore, St. Louis; N. L. Manley, Brunswick; J. Van Page, Kansas City; L. F. Rubison, Hannibal; Curtis D. Reynolds, Kansas City; Dudley McD. Riddle, Kansas City; T. P. Steele, Kansas City; Joseph Stehno, Kansas City; A. F. Schach, Ridgeway; Eugene B. Willcott, Kansas City; Sister M. Francis Xavier Yealy, Kansas City.

WISCONSIN

As a result of the Wisconsin Board of Pharmacy examination held at Madison on April 25, certificates were granted to the following successful applicants:

Registered pharmacists: Edwin Schujahn, Harry J. Schultz, Stanley G. Kosidowski, Elmer W. Groshong, Gilroy Falstad, Milwaukee; Edward G. Sonnenberg, Menasha; J. C. Olson, Bloomer; Erwin Koehn, Manford Goldberg, Milwaukee; Oscar E. Anderson, Taylor; Enos Ellegaard, Green Bay; Fenno E. Rilling, Omro; Ray D. Martin, Whitewater; William W. Nash, Ripon; Oliver W. Waldschmidt, Milwaukee; Kenzie C. MacDougall, Superior; Clement Czerwinski, Milwaukee; Leonard A. Gumes, Fort Atkinson; Joseph H. Mendelson, Lester Lambeck, Morris E. Aronson, Milwaukee; Vera C. Zuelke, East Troy; Otto H. Berndt, Claire O. Ruedig, Walter J. Schaller, J. W. Smith, Henry W. Simmons, Milwaukee; Arthur E. A. Tunak, Merrill; Sister M. Verita Buss, La Crosse; William B. Schutkin, Atilda Kropp, Arthur C. Hill and Lief Erickson, Milwaukee.

Registered assistant pharmacists: Lewis A. Hansan, Madison; Margaret Stier, Appleton; Erwin Schoenleber, Paul A. Idzikowski, Milwaukee; Adolph N. Haugseth, Hayward; Sadie Kraus, Milwaukee; Richard J. Gordon, Madison; Henry Moen, Milwaukee; George Knoblauch, Madison; Valentine Schmid, Milwaukee; Evelyn Hunt, Wautoma; Margaret W. Belky, Minneapolis; Glenn M. Bailey, Beloit; John C. Filipowicz, Frank E. Kozlowski, Milwaukee; Raymond Fischer, Manitowoc; Arnold Meilicke, Milwaukee; Harold Schumacher, Green Bay; George Sandstrom, Madison; George Lukomski, Edward J. Kleiner, Milwaukee; Walter Fromes, Sheboygan; Horace P. Hougen, Durand, and Louis J. Pochowski, Milwaukee.

The next meeting of the board will be held on July 20-23.

MINNESOTA

The Minnesota Board of Pharmacy recently held an examination at the University which lasted for eleven days, the board examining 165 applicants, 72 of whom were successful, as follows:

Registered pharmacists: O. E. Baer and A. O. Western, St. Paul; Miss Hallie Bruce, A. A. Beaver, J. H. Blair, J. B. Dargavel, W. C. Dargavel, C. F. Johnson, C. J. Lind, W. E. Perkins, A. T. Scott, J. J. Blanchette and W. A. Hoppe, Minneapolis; R. M. Amberg, Grand Rapids; E. A. Enders, Winnebago; G. T. Ford, Brainerd; W. F. Johnson, Bemidji; W. C. Lewis, Duluth; E. L. Klein, Winnebago; A. F. Maylott, Hancock; E. J. Norman, Granite Falls; P. M. Smith, Rochester; L. L. Thibodeau, Faribault; N. L. Belin, Red Wing; J. H. B. Marry, Isanti; A. W. Olsen, Argyle; J. A. Casey, Aitkin, and W. H. Hoselton, Bemidji.

Registered Assistant Pharmacists—J. F. Courtney, R. H. Podvolecke, W. J. Quast and H. V. Sundberg, St. Paul; A. C. Allen, A. Bersing, F. J. Gast, H. P. Haywood, C. J. Peterson, E. L. Rosenfield, A. R. Starn, J. L. Herchmer and H. H. Gregg, Jr., Minneapolis; K. F. Ernst, H. J. Schmidt and J. B. Fuchs, St. Cloud; J. A. Niedenfuer, A. H. Alander and L. O. Youngstrom, Duluth; Miss Ruth Sween, Lakota, N. D.; Miss D. Collins, Caledonia; J. Alton, Alexandria; H. Bergh, Kenyon; E. G. Drews, Plainview; G. L. Brobeck, Kenyon; C. D. Eagle, Fertile; E. Gilbertsen, Benson; J. Hallender, St. Peter; A. J. Helland, Pipestone; W. H. Hellman, New Ulm; B. F. Langland, Zumbrota; R. A. Langmack, Springfield; R. E. Townsend, Ivanhoe; L. Walechka, Owatonna; R. A. Nelson, Lindstrom; Hary Setter, Esmond; W. H. Schultz, Montevideo; E. J. Mueller, Parkston; R. M. Johnson, Brainerd; A. B. Heinz, Henderson; Otto Snyder, Westbrook; A. E. Johnson, Detroit; J. M. Johnson, Owatonna, and W. A. Swanson, Owatonna.

Offices of the board which heretofore have been in Minneapolis, have been established at Fourth and St. Peter streets, St. Paul.

OKLAHOMA

Secretary W. R. Jarrett, of the Oklahoma Board of Pharmacy, announces that certificates have been issued to the following applicants who successfully passed the examination held by the board at Muskogee in April:

Registered pharmacists—Roy Aubrey, Shamrock; V. E. Autry, Hickory; K. E. Ball, Tulsa; Phoebe J. Barnwell, Durant; C. C. Blair, Keota; C. B. Benham, Norman; W. H. Price, Oklahoma City; Velvie Bridal, Crescent; R. D. Brumelle, Bigheart; Noble Bryan, Vian; A. F. Buckley, Foraker; E. R. Christopher, Fairfax; Lucile A. Davis, Shattuck; C. K. Evans, Erick; E. F. Gale, Oklahoma City; H. J. Fuller, Norman; J. W. Gatewood, Pryor; H. H. Green, Helena; L. A. Griffeth, Pawhuska; Isaac Hosey, Okemah; W. K. Jordan, Healdton; D. E. McDonald, Snyder; Ethelyn Marcum, Lexington; J. D. Mickle, Okemah; O. S. Mickle, Indianola; J. J. Miller, Tar River; C. R. Parks, Miami; S. E. Parrish, Mounds; R. B. Petty, Greenfield, Mo.; Abbie N. Phillips, Shawnee; W. A. Powell, Muskogee; F. P. Reed, Pawnee; P. L. Short, Idabel; C. B. Smith, Sapulpa; H. W. Spikes, Kingston; Edward Tonn, Bartlesville; Mary M. Tully, Arkansas City, Kan.; C. J. Vogel, St. Louis, Mo.; J. C. Weaver, Wagoner.

Assistant registered pharmacists—J. H. Wendt, Oklahoma City; C. C. Curnutt, Oklahoma City; L. C. Askew, Wetumka; J. C. Smith, Antlers; A. Baker, Coleman; G. E. Turner, Muskogee; O. B. Medford, Haworth; N. C. Bowen, Hickory.

Certificates on reciprocal exchange from other States were granted to Sam Allison, Haskell, from Arkansas; Harry Beegle, Beaver, from Nebraska; W. L. Cole, Stigler, from Arkansas; D. L. Gallagher, Heavener, from Iowa; R. R. Goldsborough, Little Rock, Ark., from Texas; F. A. Huber, Muskogee, from Missouri; D. A. Jesson, Copan, from Kansas; J. P. Parker, Madill, from Georgia; C. C. Rice (negro), Wetumka, from Mississippi; R. E. Syndenstricker, Hooker, from Kansas.

R. L. Sanford of Enid, member of the board whose term expires July 1, has been appointed by Governor Robertson to succeed himself for another term of four years.

J. E. BARTLETT NEW PARKE, DAVIS HEAD

Announcement has been made of the appointment of James E. Bartlett of Detroit, Mich., as president and general manager of Parke, Davis & Co. to succeed the late Frank G. Ryan, who died on April 20, after serving as head of this distinguished house since 1907. Mr. Bartlett heretofore was director of sales for the company.

It is also announced that the place made vacant on the Board of Directors has been filled by the election of Harry B. Mason, director of promotion, publicity and advertising.

James E. Bartlett

Mr. Bartlett started with Parke, Davis & Co. as a traveling salesman in 1889. After a year or so, however, he felt the need of special training and entered the Philadelphia College of Pharmacy. Upon completing his course he rejoined the firm and spent several months in the laboratory departments in Detroit, completing his pharmaceutical education with practical experience.

A series of promotions rapidly followed. Mr. Bartlett served successively as assistant foreman of the pill department, buyer, chief of the fire department and assistant superintendent. He was finally made superintendent of the laboratory and held this position for a number of years.

In 1896 Parke, Davis & Co. decided to establish a branch office in Chicago. Mr. Bartlett was selected to initiate the movement, and it wasn't long before a large and successful branch was the result, and Chicago became one of the live centers of the business. Mr. Bartlett returned to Detroit in 1913 as a prominent member of the administrative family at headquarters. Placed in charge of the selling division of the house, the whole organization soon felt the force of his personality. New sales methods were initiated and new products pushed to the front. Mr. Bartlett has always shown a natural capacity for leadership, initiative and aggressiveness. His election to the presidency of the company brings him to the top of the ladder after a period of thirty-one years.

Governor Marcus H. Holcomb of Connecticut has appointed Senator Harvey Bissell of Ridgefield a member of the State Board of Pharmacy, for a term of five years, beginning from June 1, 1920.

APPEAL BY POST OFFICE EMPLOYEES

Urge Congressmen to Act on Report of Joint Commission on Postal Salaries

An appeal for action on the report of the Joint Commission on Postal Salaries has been issued by the New York branches of the associations of post office employees, letter carriers, post office clerks and post-office laborers. It is pointed out that fourteen months have elapsed since the Commission was appointed, but no report has been made and no bill introduced in Congress to remedy the situation. The appeal says:

"During the month of April in the New York Post-office alone 261 resignations occurred. Practically all of these resignations were occasioned by the inadequacy of our salaries and the better inducements offered in other lines of industry. Similar conditions prevail in other postoffices throughout the country. Manifestly while they prevail the postal service must suffer.

"An efficient operation of the postal service is dependent upon the experience and skill of the employees. The postal service differs so radically from all other industries that men cannot be recruited from other fields to supply defections, who have the skill and knowledge that are essential. When recruits are obtained, they must undergo a period of training and it is only by the study of difficult schemes of separation, and by assiduous application that they can be transformed into efficient employees. It is essentially a service of experts.

"Mention has been made of the failure of the Government in advancing salaries to keep pace with the trades and industries, but how very bad the situation is will be appreciated when it is said that some of the highest executive officers in the New York office, upon whom chiefly depend the higher administrative duties, are receiving less to-day than their predecessors received forty years ago. That many other officials in this great office with duties involving many responsibilities and calling for high professional and expert knowledge, are receiving but five per cent more than the same positions paid in 1907. It would probably be impossible to find such a situation in any other industry in the United States.

"The situation as to the clerks and the carriers, however, is even worse. How bad it is will be realized when it is said that the entrance grade for a regular clerk or carrier is only $23.07 a week, and that the highest automatic grade pays only $31.73 per week. To attain this maximum salary in the case of the carriers not infrequently requires ten years' service inclusive of substitution and passage through the different grades. Under the law the least possible period between the minimum and maximum grades for any employee is four years, and to this must be added the period of substitution which every employee must undergo. The public knows well the arduous labor of the letter carrier. Where else are men found to-day of whom so much is expected and who are paid so little?"

A large importer of drugs in Nagoya, Japan, says that, as the Pharmacopoeia Japonica is based largely on the German standards, American exporters of drugs would do well to take that standard into consideration when preparing goods for the Japanese market. It is said that British goods which more uniformly meet these requirements, are about 30 per cent higher in price than those from the United States, so that the American goods should have no trouble in holding the market if the drugs are so prepared as to avoid the necessity of working them over again in Japan.

Women in Pharmacy

CONDUCTED BY EMMA GARY WALLACE

A LOS ANGELES WOMAN PHARMACIST

Miss Hermie Smith

A Californian by adoption, Miss Hermie Smith now owns and conducts the spick and span drug store at 3623 Maple ave., Los Angeles, Cal. She was born at River Falls, Wis., where she pursued her studies energetically until she graduated from the River Falls State Normal School. She then began teaching, an occupation she followed for four years, all the time however, casting about for a calling that would be more to her liking. Pharmacy appealed to her very strongly, so she entered the School of Pharmacy, University of Wisconsin, in 1906, graduating in 1908. She served her apprenticeship in the store of another woman druggist, Mrs. O. T. Woolheiser, at South Wayne, Wis., and in a pharmacy at Cape Cod, Mass. In 1912 she went to the Pacific Coast, and located in a drug store at Claremont, Cal., with Miss Isabella Holden, also a graduate in pharmacy from the University of Wisconsin.

Six and one-half years later she decided to go into business for herself, so she went to Los Angeles and purchased the store she still conducts. The venture was successful from the start. She loves her work and is ready to do anything to make a success of it. She is a very busy woman, and is prepared to speak with authority on the subject of women pharmacists as employers, having served extensively with them, and being an employer herself now. She expresses her belief that women rank as first-class employers because they have the instinct which makes them kind and friendly to their helpers and always ready to take a genuine interest in them. She is a member of the Los Angeles and Southern California Retail Drug Associations, and is very enthusiastic over the possibilities of team work through organized effort. She believes thoroughly in the future of pharmacy as a profession for all women who are sufficiently in earnest to pay the price of preparation.

AROUND THE CIRCUIT

The Rummage Sale of Chicago Chapter, No. 2, netted $355,—an astonishing amount of money to receive from White Elephants. There were liberal contributions of cast-off clothing, household articles, and shop-worn goods. Among the members who gave the use of their cars for the collection of the supplies, were the MacDonald, Topf, Mentz, Robert Riemenshneider, and Berger families. The members of the Committee in charge of the sale were Mrs. J. H. Riemenschneider, Mrs. H. M. Moffett, and Mrs. Joseph Forbrich Mesdames Walgreen, Schulte, and Mentz proved very efficient business managers. The sale continued three days.

The annual election of officers was a feature of the April meeting of the Chicago Chapter which was held in Roosevelt Hall in the State Lake Building. The following were chosen to serve for the ensuing year: President, Mrs. Charles R. Walgreen; first vice-president, Mrs. H. C. Christensen; second vice-president, Mrs. C. E. Battles; third vice-president, Mrs. John Wiereter; recording secretary, Mrs. H. M. Moffett; corresponding secretary, Mrs. J. A. Topf; treasurer, Mrs. Karl Stodden.

The retiring president, Mrs. J. H. Riemenschneider, was presented by the ladies with a handsome gift. In passing the gavel to her successor, Mrs. Riemenschneider gave an address from which the following excerpts are taken:

"In reviewing the work of the Chapter for the past year, I find that the attendance average has been greater than in the preceding year with the exception of the card party in February when shortage of help and the 'flu epidemic' took its toll in our ranks.

"With practically the whole world in a sad state of chaos and conditions so unsettled with the high cost of living; with dues the same as when a dollar was worth one hundred cents, we may be very well satisfied to have done something for worthy charities and still have a goodly balance in bank after all expenses have been met.

"Your officers regret leaving the luxurious ease and service which we enjoyed for many years at Hotel LaSalle as much as any of you; however, again old man 'High Cost' was responsible. But, after all this is a pleasant meeting place, and while it took a little time to get things working smoothly it has been a pleasant season, and your officers hope that if it is thought wise to remain here, each one of you will be faithful in attendance and not allow small inconveniences to defeat the high ideals for which we stand.

"As this club was organized strictly in the interests of Pharmacy and to promote harmony and friendship thereby, and learning from experience that it is unwise to endeavor to cover too great a field of activities, I should like to submit the following recommendations:

"First, That greater effort be made to increase the membership and promote the social side of our club life thereby.

"Second, As we seem unable to find anyone connected with Pharmacy in the need of assistance, that we center our efforts upon assisting in the high school education of one or more girls through the Vocational Supervision League.

"Third, That we have a record of our W. O. Spoon babies printed annually in the year Book.

"Fourth, Insofar as is possible, that we begin to cultivate the interests of our future W. O. women by submitting the names of our young daughters for membership in our Auxiliary.

"The kindest thing I can say to my successor is that I wish for her the same harmonious, happy term of office which has been my good fortune to experience and bespeak for her the same loyalty you have shown me. Club life has taught me:

"'A day for toil,
An hour for sport;
But for friendship
A whole life-time is too short.'"

Chicago Chapter gave a delightful dinner dance at the Morrison Hotel, Tuesday, May 11th. There were cards for those who did not care to dance and other forms of entertainment.

Mrs. W. W. Klore has been spending the winter in California where she has been active as a leader in a movement to give wounded soldiers in a local hospital, all day outings in the form of picnics at the beach. Those who know Mrs Klore can readily appreciate the enthusiasm and heartiness with which she has gone into work of this kind.

Mrs. J. V. Calver, National Organizer of the W. O. N. A. R. D., who has been spending the winter in California, has started east, working her way gradually across the continent. She expects to reach Washington some time in the early summer.

Miss Louise Hewton, of the Neve Drug Co., of Sacramento, Cal., is recovering from a serious attack of illness.

Miss Esther DeCoursey and Mr. Michael Connelly, Jr., were married recently in St. Peter's cathedral, Cincinnati. The bride has been associated with her sister, Miss Lydia DeCoursey, in the retail drug business, at Eighth and Baymiller Streets, in the same city. Mr. Connelly is a prominent Cincinnati contractor. Congratulations and best wishes are extended to the young couple.

The Dorothy L. Miller Drug Company, recently incorporated in Los Angeles, Cal., has received permission from the Corporation Commission of that State, to sell one thousand shares of its capital stock to provide a larger working capital.

Philadelphia Chapter, No. 6, held its annual meeting at the College of Pharmacy, at which the annual reports of the secretary, treasurer, and the various committees were presented. The following officers were elected to serve for the coming year: President, Mrs. William E. Lee; first vice-president. Mrs. H. C. Clapham; second vice-president, Mrs. R. H. Blackwood; third vice-president, Mrs. Charles King; fourth vice-president, Mrs. Frank Fluck; fifth vice-president, Mrs. Robert Simpson; sixth vice-president, Mrs. P S. Rohn; recording secretary. Mrs. F. T. Burke; corresponding secretary, Mrs. George C. Tyler; treasurer, Mrs. Charles J. Shields.

A section of the Needlework Guild of America was formed at this meeting, to be known as Section 59, Philadelphia Chapter, No. 6. Further arrangements for Chapter Chairmen and members of special groups will be announced as soon as the President has time to make her appointments.

In response to a letter from the management of the Children's Hospital at 18th and Bainbridge Streets, containing a request that some sick little one be given its chance of life and happiness through the contribution of one dollar a day for a given period for the child's support, Chapter 6 with its usual generosity, voted to undertake the work and to care for such a child for sixty days, while the Red Cross Auxiliary of the Chapter voted to take care of one for thirty days, making a total of ninety days.

It was also decided to have a boat trip outing on the Delaware on Monday, June 28th.

For several reasons, it was decided to omit the May meeting, leaving the necessary business to the Executive Committee to transact. A social hour followed and refreshments were served.

St. Louis Chapter, No. 8. held its monthly meeting at the Planter's Hotel, with Mrs. Pauley in the chair. It was decided to send to the wife of every member of the St. Louis Retail Drug Association a copy of the *N. A. R. D. Journal* in order to stimulate the membership in anticipation of the coming convention.

The following roster of officers were elected to serve for another year; President, Mrs. A. W. Pauley; vice-president, Mrs. A. S. Ludwig; recording secretary, Mrs. L. A. Fischer; treasurer, Mrs. F. M. Havermann.

At the meeting of Louisville Chapter, No. 11, held recently in the College of Pharmacy, a report was presented stating that $150 had been raised toward the Club Building Fund.

Mrs. George Boeckman entertained the members at her home on Chestnut Street during the month. One of the happy features of this party was "An Auction in Beans," which caused a great deal of merriment.

Milwaukee Chapter, No. 19, held its monthly meeting as usual at the Hotel Blatz, there being a goodly attendance. As Mrs. O. Widule. the secretary, was ill, Mrs. E. Raeuber was appointed secretary pro tem.

A signal honor was announced in the form of a personal letter received from Field Marshal J. Joffre in which he expressed his thanks and appreciation to contributors in Wisconsin who are engaged in the work of supporting nine thousand war orphans in France. This letter came through Mrs. Lawrence Fitch, who is Chairman of the Milwaukee, Wis., Committee of the Fatherless Children of France. A letter from the Chapter War Orphans was also received and read.

A new member, Mrs. Fred Yahr, was welcomed. After the regular business of the day, the members enjoyed a social hour in games. Prizes donated by the members were awarded to Mrs. E. Raeuber, Mrs. Kaiser, Mrs. H. Wussow, Mrs. T. Biederman, Mrs. F. Yahr, Mrs. Farber, Mrs. Manhardt, Mrs. T. Bakke, Mrs. Heise. and Mrs. Leidel.

Sympathy is extended to Mrs. Neilbohm, one of the Milwaukee Chapter members, who has lost a devoted husband after an illness of only a few days.

The members of Indianapolis Chapter, No. 20, enjoyed a very happy time at their April meeting, held at the home of Mrs. Edward Ferger. There were sixteen members present, one being a new member.

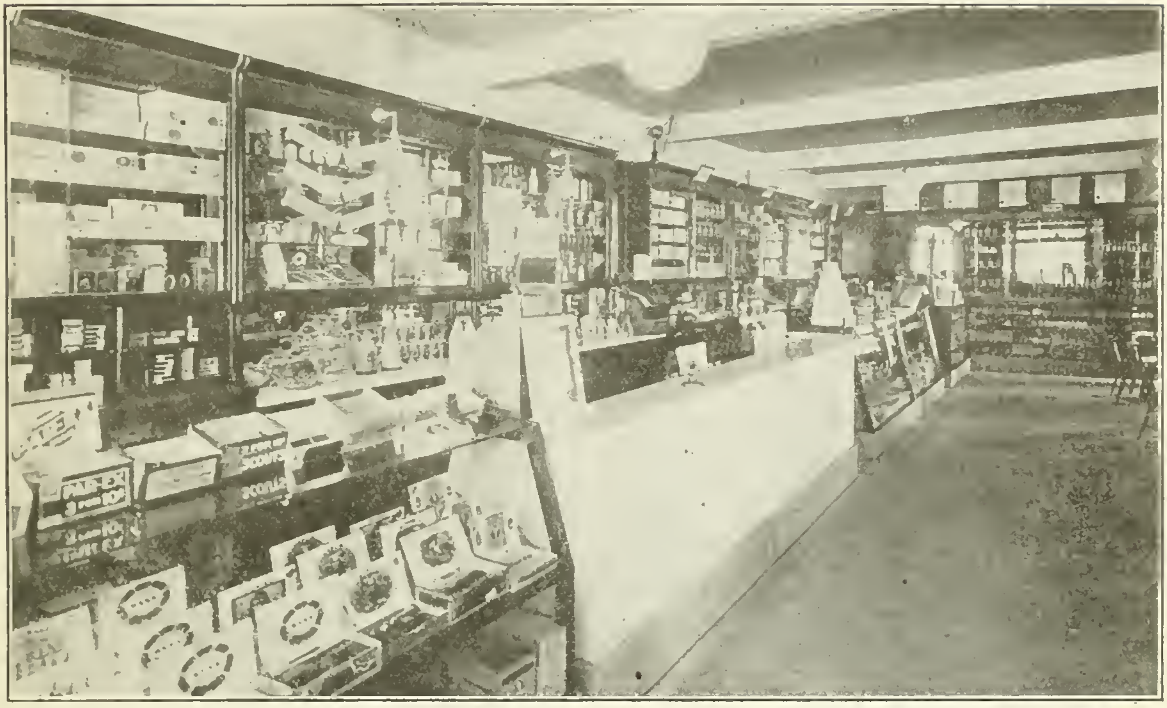
Full reports of the Committees were received, and a special appeal was made by the Thrift Chairman of the Chapter, to purchase War Saving Stamps. This is a request being asked of every Club in the State Federation. The Chapter decided to make such a purchase.

Mrs. Ferger was appointed to instruct members for a few minutes at each regular meeting, on the Constitution of the United States and the Constitution of Indiana.

The Chapter was greatly interested in the report given by Mrs. Neukom of Terre Haute, Ind., Woman's Organization of Retail Druggists, who was the guest of Mrs. Ferger, the President of an unaffiliated local This group of Terre Haute ladies has been organized for six years, and during the latter half of that time, the members have started and have supported an Old Ladies' Home for their indigent townswomen. The Indianapolis Chapter extended a hearty invitation for the Terre Haute Association to become affiliated with it as State members.

The April meeting of the W. O. B. A. R. D., held at the College of Pharmacy, proved to be an especially interesting afternoon, as it was the annual Presidents' Day, and more than forty Presidents of other Boston clubs were in attendance. Mrs. George Minot Baker, president of the State Federation brought greetings from the club women of the whole state; as did also Mrs. Frederick Smith. vice-president of the same organization. Mrs. George O. Jenkins, general Federation secretary, gave the main address of the afternoon, which was entitled "Ideals." A musical program was followed by an informal reception at which refreshments were served. The guests were then escorted by Dean Bradley on a special rtip of inspection over the new Club building.

Fixtures in a Modern Drug Store



View of the interior of Al Berg's drug store, Wilkinsburg, Pa., showing fixture arrangement to carry out "sales suggestion" idea.

MUCH has been said in recent years about the development of the modern drug store, and if one cares to dive into history one will find that although the pharmacist of to-day has many things in common with the generations of those who preceded him, his calling has made mighty strides forward, and has always advanced in the direction of the progress and demands of the age in which it has been practiced. This advancement is particularly emphasized by the character of the fixtures and other equipment of the modern drug store. In addition to having a reputation for professional knowledge, the pharmacist's store must be constructed on attractive lines, with special reference to housing and care of stock, display of goods, and convenience in the transaction of business.

A notable example of this modern tendency in fittings and equipment is seen in the drug store of Al Berg, located at the corner of Rebecca and Mulberry Streets, Wilkinsburg, the busy industrial and residential section of Pittsburgh, Pa. Mr. Berg, a live wire pharmacist, who conducts one of the most popular establishments of its kind in the Smoky City, has installed a complete line of the Good Fixture Units manufactured and placed in position by the W. B. McLean Manufacturing Company. As will be seen in the accompanying illustrations, full advantage has been taken in the drug store arrangement, the busiest departments being lined up together for the sake of convenience and also to carry out the principle of "sales suggestion."

The telephone booths, as they should be in all pharmacies, are placed in the extreme rear, all possible space being devoted to a valuable purpose and not a single opportunity is lost to make "two sales where one was started." In the space back of the soda fountain Mr. Berg has arranged a "money-making" display, consisting of a number of attractively priced articles, which he states has attracted hundreds of persons who "just came in for a soda" but went out with one or two additional purchases, all because they happened to see the display. Adjoining the soda fountain is the cigar department, while on the other side is the candy and confectionery display. Close at hand, so that it can be seen

"Snug seat" tables show merchandise to advantage in Berg's pharmacy

by patrons of the fountain, is an attractive perfumery display unit. The pharmacy is also equipped with display top "snug seat" tables, which not only attract the customer but make it possible to show merchandise to the best advantage. That Mr. Berg is keenly alive to the business opportunities of a first class pharmacy is shown by the fact that he is making his influence felt as a successful pharmacist in the busy town that claims him for a resident and leader in business affairs.

INSPECTION OF COD LIVER OIL

There are in Newfoundland four large plants for the freezing of cod liver oil, and the owners, who buy it direct from the fishermen, put it through the freezing process on the spot. It is then put into tin-barrel packages of 25-gallon capacity, inclosing the whole in a wooden barrel as a protection. This is the barrel that is quoted at about $90.00 in New York. The total exportation of non-freezing cod liver oil and ordinary refined oil to Dec. 31, 1919, amounted to 201,305 gallons; whereas in the previous year it was over 300,000 gallons. There are at present about 65,000 gallons of oil left in all Newfoundland. Since last year the refining of cod liver oil has come under the control of the Government. This has been thought necessary, owing to the custom of some refiners of shipping oil which had not been properly treated and, as a result, giving the product a bad name in foreign markets. Inspectors are now employed whose duty it is to travel around the coast and inspect all refineries and plants and see that every gallon exported is up to the required standard. This system of inspection has produced highly beneficial results in connection with foreign trade.

FRUIT DISPLAYS ATTRACT TRADE

Alluring mass-displays of fruits have always been effective in attracting customers to the soda fountain, arousing not only a demand for the beverages made from such fruits, but for the fruits themselves. A certain druggist in a mid -Western city found the fruit business so profitable as a side-line to his soda fountain that he asked his fruit-jobber to supply him with a few boxes weekly for the sole purpose of selling the fruit.

The California Fruit Growers Exchange, Los Angeles, growers, packers and shippers of Sunkist oranges and lemons, recently gave wide publicity to the experience of the druggist in a letter to their customers, with the result that the suggestion was widely adopted by progressive soda fountain men throughout the country with great success. In some cases the feat of the pioneer druggist was bettered, and in many cases it was equalled. Whether oranges or lemons are displayed for sale or merely for drink promotion, the Exchange urges dispensers to display the popular sizes only. For juice extraction, the use of the small sizes is recommended as being more economical, and the small fruit is as juicy as the selected sizes usually in household demand.

PRESCRIPTION CHEMICALS

Every careful conscientious pharmacist takes a pride in maintaining his dispensing department on the highest possible standard, which naturally embraces all material entering into the important compounds he prepares. The Mallinckrodt (M. C. W.) chemicals have always stood in high favor with the Prescription Druggist because they represent a high dgree of purity and are attractively put up. No pharmacist can offer physicians better evidence of his efforts to serve them in the best possible manner than by having his prescription department well stocked with "M. C. W." Chemicals. Among these should surely be included the "M.C.W." Bismuth Subnitrate and other Bismuth Salts in the manufacture of which this firm has specialized for a matter of fifty years.

NEW P-W-R WAREHOUSE IN ST. LOUIS

St. Louis, Mo., May 18.—The St. Louis branch of the Powers-Weightman-Rosengarten Co., manufacturing chemists, has purchased the six story warehouse building at the southwest corner of Broadway and Clark avenue. The branch, which has been here for fifteen years, is a distributing center. Two or three years ago, when located just around the corner from where it is now established, it was burned out and the quarters it is now occupying have practically been only temporary. It is in the neighborhood of Meyer Bros. Drug Co., the new location of the Wm. Warner Co., and really in the wholesale drug center. The building has a 58-foot front and a depth of 110 feet. The price paid is said to have been about $75,000.

CERTIFICATE FOR PATRIOTIC SERVICE

The United States Government has awarded the AutoStrop Safety Razor Company a certificate of merit expressive of the appreciation of the patriotic service rendered by the company in furnishing supplies during the World War. The certificate was presented by General Bullard in the Assembly Room of the New York Chamber of Commerce on April 15, and accompanying it was a beautifully worded letter from the War Department mentioning the fact that the AutoStrop Safety Razor Company had patriotically turned over its entire production to the Government during the period of the War, at the expense of its civilian trade.

The annual convention of the Pennsylvania Pharmaceutical Association will be held at the Penn Harris Hotel, Harrisburg, Pa., June 22-24. Dr. Louis Saalbach of Pittsburgh is secretary of the association. He anticipates that the assemblage will be one of the largest in the history of the organization.

STATEMENT OF THE OWNERSHIP, MANAGEMENT, CIRCULATION, ETC., REQUIRED BY THE ACT OF CONGRESS OF AUGUST 24, 1912.

Of The Pharmaceutical Era, published monthly at New York, N. Y., for April 1, 1920, State of New York, County of New York—ss:

Before me, a notary public in and for the State and county aforesaid, personally appeared D. O. Haynes, who, having been duly sworn according to law, deposes and says that he is the Business Manager of The Pharmaceutical Era, and that the following is to the best of his knowledge and belief, a true statement of the ownership, management (and if a daily paper, the circulation), etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, embodied in section 443, Postal Laws and Regulations, printed on the reverse side of this form to wit:

1. That the names and addresses of the publisher, editor, managing editor and business managers are: Publishers, D. O. Haynes & Co.; Editor Ezra J. Kennedy; Managing Editor, Ezra J. Kennedy; Business Manager, D. O. Haynes, all of No. 3 Park Place, New York, N. Y.

2. That the owners are: (Give names and addresses of individual owners or, if a corporation, give its name and the names and addresses of stockholders owning or holding 1 per cent or more of the total amount of stock.) D. O. Haynes & Co. and D. O. Haynes, 3 Park Place, New York, N. Y.; F. J. Haynes, St. Paul, Minn., E. King, 15 William St., N. Y.

3. That the known bondholders, mortgagees, and other security holders owning or holding 1 per cent or more of total amount of bonds, mortgages, or other securities are: (If there are none so state.) There are none.

4. That the two paragraphs next above, giving the names of the owners, stockholders and security holders, if any, contain not only the list of stockholders and security holders as they appear upon the books of the company but also, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for which such trustee is acting, is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the cmpany as trustees, hold stock and securities in a capacity other than that of a bona fide owner, and this affiant has no reason to believe that any other person, association, or corporation has an interest direct or indirect in the said stock, bonds, or other securities than as so stated by him. D. O. Haynes, Business Manager.

Sworn to and subscribed before me this 1st day of April, 1920.

(Seal) G. H. RAYMOND, Notary Public, Kings Co., Certificate filed in N. Y. Co. (My commission expires March 30, 1923.)

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Pharmacists as U. S. P. Revisers

Analysis of the personnel of the Committee elected at the recent Convention to prepare "copy" for the Tenth Revision of the United States Pharmacopoeia shows that, in so far as numbers are concerned, the pharmacists are in the ascendant and can, if the occasion should arise, outvote the medical men about two to one, the new Committee being composed of seventeen physicians and thirty-three pharmacists. This fact is of interest, not because of any anticipated contest that is likely to arise which will call for a division of voting strength on the basis of whether a member of the Committee is a member of one or the other profession, but because it emphasizes the necessity and importance of specialized pharmaceutical knowledge in the compilation of a work which is to serve both professions in their respective fields, and particularly the commercial needs of the country by providing trustworthy definitions and official standards for the remedies named therein.

Any one at all familiar with the progress of pharmacopoeial revision in this country will recall that up to the Pharmacopoeial Convention of 1850, pharmacists were not in evidence as pharmacopoeia makers, but since that time they have taken a most active part in the work of actual revision. To a large extent the physician undoubtedly has had his say as to the majority of the drugs and preparations that should be recognized by the Pharmacopoeia, and in the main, the selection of the articles for this recognition have met the needs of the average prescriber. There have been medical men as well as pharmacists who have contended that the Pharmacopoeia should include every article used in medicine, while some physicians would limit the scope of the work to a restricted list of drugs and preparations of proved therapeutic value and which are capable of positive demonstration in the hands of the trained pharmacologist.

Between these two extremes as to what shall be recognized in the Pharmacopoeia, the revisers are called upon to select such articles as in their judgment will meet the majority wishes of the entire medical profession, and none are so likely to know of what the physicians are actually prescribing as the pharmacists. In the main, the latter are likely to go no further than to insist that the Pharmacopoeia shall adequately provide standards for the practice of pharmacy as these pertain to such remedies, not a guide for the practice of medicine.

If anything, pharmacists from their greater opportunities for coming in contact with the drugs actually prescribed by the average physician, are inclined to be most liberal in the number of drugs to be slated for official recognition. In this respect, they are more likely to meet the desires of the entire medical profession than if the selection was left to a small coterie of scientific pharmacologists or clinicians. While the "balance of power" rests with the pharmacists in the make-up of the new Revision Committee, there is every reason to believe that it will never be exerted otherwise for the best interests of American physicians, pharmacists, and the public.

Prohibition Amendment Constitutional

Prohibition is now firmly established as a law of the land, the decision of the United States Supreme Court handed down on June 7 settling, so far as the highest recognized authority of our government can settle any question, the constitutionality of the eighteenth amendment and the Volstead enforcement act. It is now up to all good citizens to obey the law, while those who fail to respect the provisions of such legislation are most certain to feel the strong arm of the Federal Government exerted in correctional measures.

Under the decision, the sale of any beverage containing more than one-half of one per cent of alcohol is forbidden in every State in the Union regardless of the statutes adopted in the defense of State rights. Such measures as have been passed by New York, New Jersey, Rhode Island and other States are nullified, the Supreme Court deciding that prohibition is a subject which may be dealt with properly in the constitution and does not in any way conflict with other articles in that document. The much mooted question as to the meaning of "concurrent power" is therefore settled, so far as prohibition is concerned, and the Federal Government is supreme.

Druggists as a class have been greatly interested in the application of the provisions of the prohibitory law. In the machinery provided by the law to vend the liquors which might be sold for medicinal purposes only, druggists were made important cogs, not because a majority of them wished to perform such a duty, but because the law-making bodies realized that no other class of merchants could perform such a labor. Many associations of druggists in every State went on record as opposed to being made the distributors of liquors for medicinal purposes, even going so far as to ask the Government to establish stations where liquors could be obtained under the direct supervision of the Federal authorities. Such a scheme has not yet materialized to any extent, though no one can tell what the future may bring forth. It is believed however, that the majority of druggists will do all they can to simplify the machinery for the enforcement of the law, and will strive to have removed from the regulations the opprobrious words which designate them as "retail liquor dealers," and that in face of the fact the law itself provides that no liquors may be sold except for medicinal purposes. If liquor is a medicine only, it clearly comes within their business of furnishing remedies. The decision of the Supreme Court settles the legality of the entire prohibition question and druggists are glad of it. Whatever may be said to the contrary, the chances of the removal of the amendment from the constitution are very remote and improbable.

New Jersey's Golden Jubilee

The recent celebration of the fiftieth anniversary of the New Jersey Pharmaceutical Association in Newark serves to emphasize something more than the expedient of providing a medium for the maintenance of fraternal relations among pharmacists. Valuable as the association has been in the opportunities it has given for the cultivation of new friendships, one has to look deeper than these surface indications if he would understand the "why" of the perpetuity of these organizations. While a few of the State organizations have occasionally ceased to function as such for longer or shorter periods of time, not many of them since their early beginnings have permanently wound up their affairs and ceased their corporate existence.

Fifty years ago, more or less, saw the beginnings of a large number of pharmaceutical associations, most of them coming into existence as the result of conventions called for the sole object of securing much needed pharmacy laws, and to their credit, no one appreciated the necessity for such legislation more than did the druggists themselves. The leaders among them saw that if pharmacy was to be advanced to a higher plane, the initial movement had to be generated within the profession itself. As a result of this agitation, and a certain organized strength behind it, there began an era of pharmaceutical legislation which has continued to this day. Some of these enactments did not always accomplish in the best possible manner all that was expected of them, but in the main they have been amended and extended to meet the changing conditions of the time.

No other calling, perhaps, has witnessed greater changes in its various departments of practice during the past half century than those that have come to pharmacy. The rapid development of the country and its complex civilization brought problems which had to be met, if pharmacy was to keep step with the march of progress. The early members of the associations were alive to the situation, and in their united action they demonstrated that mutual union was necessary for their advance along professional and educational lines, and so they have continued to work for the general good of pharmacy up to the present day.

The members of the New Jersey Pharmaceutical Association are to be congratulated on the success of their celebration. With the entertainment festivities of the present, the minds of many present must have reviewed the events of the past, and from them attempted to plot a line of action for the future. To so many the old phrase of history repeating itself is always obtruding, and in this instance the wish is father to the thought. So here's to the N. J. Ph. A.: May it live long and prosper.

Mt. Lebanon Medicine Makers--the Shakers

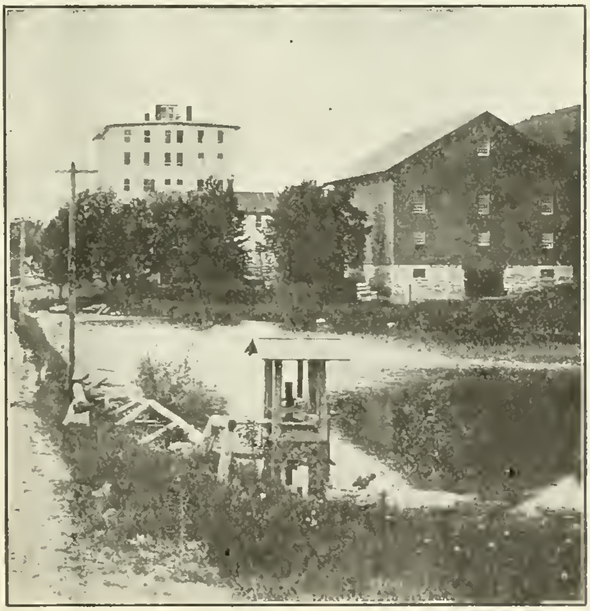
By GEORGE NILES HOFFMAN

THE distinguished pharmacist, John Uri Lloyd in an article which appeared in the "Journal of the American Pharmaceutical Association" of December 1919, says, in part;

"Co-laboring pioneers in the field of American plant pharmacy were the Tildens of New Lebanon, N. Y. (H. A. Tilden, founder), who conducted the first great eastern laboratory devoted mainly to medicinal plant preparations. In connection with this was established perhaps the most extensive of all American plant gardens, past or present; and in the Tilden laboratory was first established and applied vacuum apparatus, devoted to medicinal plant manipulations on a large scale. With the Tildens were associated the Shakers of Mount Lebanon, N. Y. Hand in hand did they work, their efforts uniting to the upbuilding and progress of the great Tilden establishment, described editorially by Professor William Procter in the American Journal of Pharmacy, 1855, as an industry exhibiting wonderful pharmaceutical activity."

On page 308 of the "History of Columbia County, New York" one may read relative to the Shakers of Mount Lebanon:

"The preparation of native herbs and indigenous plants for medicinal purposes was begun as early as 1825. The process was at first very crude, the extracts being prepared in an open kettle, and the herbs pressed by a small hand machine. But about 1830, Garrett K. Lawrence, the Society physician, conceived the idea of distilling *in vacuo*, so as to preserve the best qualities of the herbs. A pan was accordingly constructed on this principle, which though rude and of small capacity, proved very satisfactory. Machinery was also devised to press the herbs on a larger scale, using first hydraulic, and afterwards steam, power. The product was increased from a few hundred pounds to seventy-five tons per year, and the capacity was extended in other directions. A very large and conveniently arranged herb house was destroyed by fire in 1875, involving a loss of $75,000."



A view of the Shaker village in the Taghkanic mountains showing dormitory, millpond and other evidences of an industrious life

Who are these people called Shakers who were among the earliest of American medicine-makers? To whom is applied such a politically election-day sounding title? We have heard perhaps of the "Bushwhackers," the "Kentucky Mountaineers," and the "Seventh Ward Gang" but who, why, where, how, and what are the Shakers? We must admit that they were medicine-makers at an early date, perhaps the first pharmaceutical manufacturers on a commercial scale in this country. That is interesting to us, who are now druggists and pharmacists, and we would like to know something about these historically famous pioneers in American drugdom.

A trip through the northern part of Columbia County, New York, brings one to the western slope of the Taghkanic hills which are a part of the famous Berkshire mountain chain. It is a beautiful country, and the slopes are covered with forests and glens where many medicinal trees, plants, flowers and grasses grow wild. The little streams which flow down the hillsides contribute to the beauties of the natural scenery, and water the herbs in the fields and forests through which they pass. Some of the forest glens are almost tropical in their growth of vines, mosses and ferns. In the fields below, where a beautiful valley stretches, many more drug plants and herbs will be found. It seems that this spot was originally intended by nature to furnish medicines for those who cared to come and gather them. It is here that the two famous eastern medicine factories were started long ago. One remains today in a flourishing condition, the Tilden establishment; the other is the victim of strange circumstances and has passed into decline. The pious Shakers no longer gather the herbs from the hillsides to the extent that they did in days gone by. The vacuum pans in their factories run by spurts only, when orders are to be filled. They once were the busiest in America. The highly cultivated drug gardens that industrious Shaker brothers once cared for are far smaller than they once were.

The Shakers of Mount Lebanon

Snugly nestling on the western slope of the Taghkanic mountains, Columbia County, New York, near the boyhoood home of Samuel J. Tilden—one time Governor of the Empire state and made famous by his charitable gift to New York City, the Tilden Foundation, and also his defeat for the presidency of the United States by one vote in the Electoral College—lies the interestingly historic village or home of the "United Society of Believers in Christ's Second Appearing"—the Shakers.

Towards the close of seventeenth century an extensive religious revival and general upheaval occurred in some of the countries in western Europe. France contributed a large share of the converts to religions and beliefs of an extraordinary nature. The people affected were violently agitated, and their nervous systems greatly aroused and set on edge. They tried to convert others to their strange beliefs by warning them of the wrath of God, and picturing all sorts of agonies, griefs and woes which they were sure would soon come to a sinning, unrepenting world. They prophesied in no approach apace of the millennial period foretold in quiet manner the end of earthly things, and the the Scriptures.

A brand-new religious sect was created, and as early as the year 1700, the disciples of this strange belief found their way to England, where they were hailed as the "French Prophets." These missionaries preached, sang and prophesied. They held meetings among the poor in England's provincial towns, and they made converts of James and Jane Wardly, who were firm followers of the historic family of the Society of Friends, or Quakers. It was not long before they had secured a large following of religious enthusiasts for their organization; and their strange methods of holding services were novel and interesting. The meetings got the crowds.

Serving God by Dancing and Shaking

The way the new sect worshipped was enough to get a man fined $1,000 in a modern public dance-hall. Naturally, in those Puritanical days it caused a great deal of excitement. The disciples and their converts would jump about and dance, fall all over themselves on the ground like circus tumblers, whirl and spin on their heels and do all manner of "shakings." They would also sing and shout for joy. In certain of their dances the men would divide and then dance toward each other with hands outstretched and shaking with many a wave and emotional gesture. All this signified the religious power which was taking place in their lives. Every wiggle, every whirl, every twirl, had a meaning all its own. Their joy because they had found the true way to worship God was extreme, and it was ardently expressed.

"Mother Ann"

Among those who adopted the Shaker religion in 1758 was Ann Stanley, the wife of a poor blacksmith, who had unhappily lost four children in their infancy and who had become very nervous over her condition. This girl was highly-strung mentally and her great disappointments—taken with all the sufferings she had gone through—most probably accounted for her desire to embrace the new belief. The girl Ann had always been different from other children, and extremely quiet and thoughtful. Her friends had always known her as of an odd nature, but intellectual. Mrs. Stanley gave up her husband's name, and took her maiden name instead. Ann Lee,—as she was now styled, said that marriage was a sin, and only contracted to satisfy the lusts of the flesh. After nine years of these preachings, intense thought and mental anguish, Ann became to look like a crazy person. At that time she professed to have received a revelation from God that Christ had become incarnate in her, and that she—Ann—was chosen by the Almighty to announce His second appearance on earth. She maintained that God had first come on earth in the male as in Jesus Christ, and not it was the time for His appearance as a female.

It was not many days after Ann commenced her new teachings before this "spiritual Mother of Israel" as Ann called herself, landed in an English jail. In that country she was persecuted and continually misused during seven years, in which time many attempts were made upon her life. The horrible sufferings and tortures she had to endure for her religious beliefs served to make her a martyr in the eyes of her enthusiastic followers. The advertising she got throughout the world won many friends, sympathisers and converts to her cause, and gave Shakerism a firm hold on certain classes of poor people.

"Mother Ann" in America

In 1780 Mother Ann entered the village of New Lebanon. She had crossed the ocean, and was now bringing her "truth," as she might have said, to our free country. She happened to strike the little village in New York State at a favorable hour, for the people there were undergoing a most striking revival and were filled with religious fervor. Indeed, they were so filled with the religious spirit that they neglected to eat or to work.

It was just the chance for Mother Ann. When she declared the doctrines of her belief to them from the pulpit, they hailed her at once as the woman mentioned in the Apocalypse, and believed without hesitation that in her, Christ and God the Father were made manifest on earth. So cordial was their invitation to the poor cast-out longsuffering Shaker to come and live among them, that the great settlement was formed which remains as the Shaker village today. Many of the converts to Shakerism were recruited from among the worthy settlers of New Lebanon and other parts of Columbia County.

(To be continued)

The Drug Business in Colonial Times

Newspaper Advertisements Reflect the Character of the Calling and the Heterogeneous Assortment of Stock

THE history of pharmacy in this country, if properly recorded, would, no doubt, date from the original settling of the country. Wherever civilized human society exists a physician is found, and with the physician invariably the apothecary. The history of every old State contains references to druggists, and the files of the oldest newspapers contain their advertisements. As long ago as 1646, the Minutes of the Affairs of Boston Town, in the Colony of Massachusetts, contain an entry to the effect that William Davice, apothecary, was given permission to set up a fence before his hall and parlor windows, three feet from his house. Just where Davice's drug store was located, and how long before that time he had been established in business, is not mentioned in the records.

We may be very sure, however, that he was a man of affairs, and that he was a law-abiding citizen, else he would not have made application to the City Fathers of his day for permission to separate his quarters from the public domain. History is silent as to the character of shop, but if he followed the practices of his time, he was undoubtedly familiar with the dispensatories of Quincy, Lewis and other contemporaries, if not the actual owner of a copy of the London, Dublin or other pharmacopoeia. With one of these "standard works" at hand it is not difficult to name not a few of the drugs which must have formed the pharmaceutical side of his business, while the advertisements of the period carry home the conviction that the druggists of those days also dealt in a miscellaneous line of goods, which for variety and heterogeneity, would make the assortment of stock carried by the modern commercial pharmacist look like a restricted proposition.

From the newspaper advertising of those days, and the titles of the drugs and preparations named, it is easy to believe that the colonial apothecary depended largely on the English market to supply him with drugs. Nomenclature had not yet become Americanized, and the abbreviated Latinity of the time still smacked with the mysticism that had enveloped the pharmacopolist of the past. There were no fixed standards for making pharmaceutical preparations as they are known today, and outside of large cities, not only the apothecary, but the physician, and oftentimes the trader, took a hand in the control of the business.

An interesting illustration of the drug business as conducted in Colonial times is afforded by an advertisement in the "New York Gazette, Revived in the Weekly Post Boy," June 18, 1750. Thomas Wood, the advertiser, settled in New Brunswick as early as 1748, as a missionary of the "Venerable Society for the Propagation of the Gospel in Foreign Parts," for which he received 40 pounds a year salary. He is described in the archives of Christ's Church, New Brunswick, over which he officiated, as "a gentleman of very good life and conversation, bred to physic and surgery." This seems to prove that the medical missionary is not a modern invention. But read the advertisement:

To All Practitioners in Physick

Imported this Spring from London a very good Assortment of Drugs and Medicines which are to be sold at the following most reasonable rates: also any part of the utensils of a neat Apothecary's shop, exceeding cheap.

N.B. any person who will purchase the whole, may have them at a cent advance; and any one who sends an order for any Medicines and should not be satisfied with any of the Articles shall have their Money returned within a Month after their delivery.

For Ready Money, York Currency	£	s	d
All Compound Waters per Gallon	1	0	0
Cantharides p. Pound		15	0
Conn. Cerv. Calc		2	0
Elect. Mithridat		7	0
Theriac Androm		7	0
Diascord		3	6
Empl. Diachyl S.		1	8
de Bolo			
de Minio			
Mellilot			
Paracels		6	0
Oycroe			
Drach cum Gumis			
All other plaisters in Proportion.			
Gum Ammoniac		7	6
Arebic		2	0
Assoe Foetid		10	0
Camphor		14	0
Opium	1	12	0
All other gums.			
Manna opt		10	0
Second sort, ditto		8	0
Sal. Cathert Amer.		1	0
Sal. Mirab Glaub opt		3	0
Ditto, second sort		2	0
Spt. Sal. Vol. Ol.		7	0
Lavend. C.			
Corn Cerv., etc			
All Spirits and Tinctures			
Fol. Semoe Ale		10	0
Syr. de Spin C.		3	0
Violar Lond.		6	0
Diacedii		4	6
All other Syrups			
Mer Dulc per ounce		1	8
trac. alb.		1	8
Ruhr.		1	8
Ol. Anis Chym.		2	6
Juniper		1	8
All other Salts.			
Ivory Glyster Pipes, p. Dz		4	6
Box ditto		3	6
Phial corks, per gross		1	0
Large Velvet Corks		3	6

Gallipots, Pill Boxes, Gold and Silver Leaf, Partly Gold and Dutch Metal, Sieves, etc., and all sorts of Drugs and

Medicines in Proportion. Be pleased to direct to Thomas Wood, at New Brunswick.

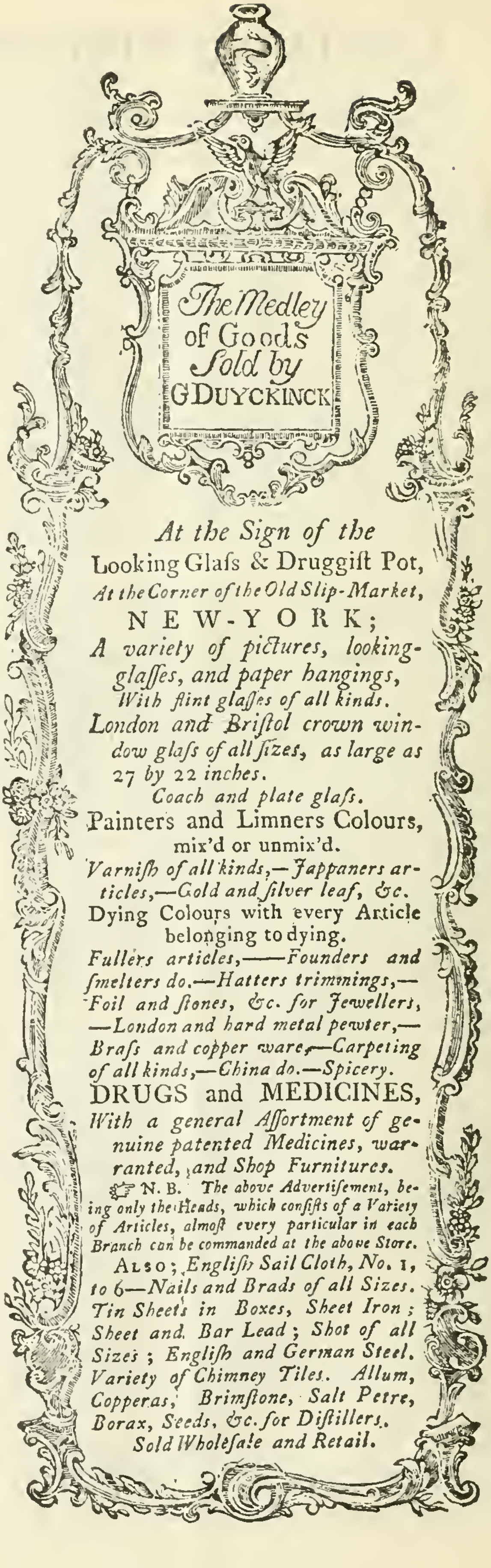
While the above list names many of the articles of a purely medicinal character handled by the druggist of the Colonial period, another glimpse of the apothecary's business and his style of publicity is given in the following copy of an advertisement which appeared in the "Supplement to the New York Journal or General Advertiser," under date of May 11, 1769;

> Selling off at Prime Cost. A Fresh and General Assortment of Drugs and Medicines, Patented Medicines, Shop Furniture, Surgical Instruments, &c. by Thomas Bridgen Atwood, who is removed from Broad street, to the corner House, where Sheriff Roberts formerly lived, opposite to that occupied by General Amherst, now by Mr. LeRoy the corner of Nassau street, where country orders will be punctually executed. Physician's and Family Prescriptions faithfully made up, and all Favours duly acknowledged

These were stirring times in the American Colonies, for the spirit of nationalism was rife, and the stage was being set for the scenes that were to introduce the Revolution of '76 and the Independence of the United States In the same issue of the paper from which the above advertisement is taken, we find an advertisement signed by James Otis, of Boston, in which he announces that certain individuals "have frequently and lately treated the character of all true North Americans in a manner that is not to be endured, by privately and publickly representing them as Traitors and Rebels, and in a general combination to revolt from Great Britain. And whereas the said * * * *, without the least provocation or colour, have represented me by name as inimical to the rights of the crown, and disaffected to his Majesty, to whom I annually swear and am at all events to bear true and faithful allegiance, for all which general, as personal abuse and insult, satisfaction has been personally demanded, due warning given, but no sufficient answer obtained." He then goes on to warn everybody to pay no attention to these "abusive misrepresentations" of him or "his country."

The advertising of pre-revolutionary times would be incomplete without reference to the miscellaneous stock named in the advertisement reproduced herewith from an issue of the same journal, kindly loaned to the writer by the Isaac Mendoza Book Co., of this city. The average drug store of today is compelled to carry many side lines that are not measured by pharmacopoeial standards, and the assertion is often made that the modern pharmacy is nothing more than a miniature department store The knowledge of this fact, if such it be, causes some professionally inclined pharmacists to decry their calling. But let these same individuals compare the character of the stock carried in the present day drug store with that enumerated in these specimens of 18th century advertising and even he will be forced to admit that his colleagues do "specialize" much more than did their forbears in pre-revolutionary times.

The accompanying advertisement appeared under date of August 3, 1769, and its perusal is quite sufficient to convince one that G. Duyckinck "at the Sign of the Looking Glass & Druggist Pot" was a truthful advertiser, at least to the extent that he carried a "Medley of Goods."



The Medley
of Goods
Sold by
G DUYCKINCK

At the Sign of the
Looking Glaſs & Druggiſt Pot,
At the Corner of the Old Slip-Market,
NEW-YORK;
A variety of pictures, looking-glaſſes, and paper hangings,
With flint glaſſes of all kinds.
London and Briſtol crown window glaſs of all ſizes, as large as 27 by 22 inches.
Coach and plate glaſs.
Painters and Limners Colours,
mix'd or unmix'd.
Varniſh of all kinds,—Jappaners articles,—Gold and ſilver leaf, &c.
Dying Colours with every Article belonging to dying.
Fullers articles,——Founders and ſmelters do.—Hatters trimmings,—Foil and ſtones, &c. for Jewellers,—London and hard metal pewter,—Braſs and copper ware,—Carpeting of all kinds,—China do.—Spicery.
DRUGS and MEDICINES,
With a general Aſſortment of genuine patented Medicines, warranted, and Shop Furnitures.
☞ N. B. *The above Advertiſement, being only the Heads, which conſiſts of a Variety of Articles, almoſt every particular in each Branch can be commanded at the above Store.*
Also; *Engliſh Sail Cloth, No. 1, to 6—Nails and Brads of all Sizes. Tin Sheets in Boxes, Sheet Iron; Sheet and Bar Lead; Shot of all Sizes; Engliſh and German Steel. Variety of Chimney Tiles. Allum, Copperas, Brimſtone, Salt Petre, Borax, Seeds, &c. for Diſtillers.*
Sold Wholeſale and Retail.

On the Revision of the Pharmacopoeia

By DR. H. W. WILEY, Retiring President of the U.S.P. Convention

The address delivered by the retiring president at the recent Decennial session of the U.S.P. Convention presented in outline many interesting features of the evolution and historical development of the Pharmacopoeia, a number of which were referred to in the abstract given in the news of the meeting which appeared in the Era *of last month. Concerning the scope of the forthcoming Pharmacopoeia and the work of the Committee of Revision, Dr. Wiley expressed some decided and pertinent views; these so clearly reflect some of the problems which confront those entrusted with the preparation of the new revision, that those portions of Dr. Wiley's address containing these expressions are given here, as also his tribute to his deceased associates and his farewell to the Convention.*

By far the most important work of each Decennial Convention is the preparation for the revision of the Pharmacopoeia. The value of this work and its future circulation depend exclusively upon its merit. If it is a book which will continue to be useful to physicians and pharmacists its vogue will continue. If, on the other hand, it should be a work devoted exclusively to the benefit of the pharmacists, the physicians will no longer take any interest in it. If it should be exclusively a work devoted to the interest of the physician, the pharmacist would be justified in withdrawing from its support. Therefore, the present status of the work must be maintained and the welfare of both professions steadily kept in view. This attitude will also secure to suffering humanity the maximum of benefit. For this reason the constitution of the Committee on Revision should receive, as it does, the principal attention of each succeeding Convention. The attempt should be continued to omit from the Materia Medica of the Pharmacopoeia, those things which science and practice have shown to be of little or no value. On the other hand, the attempt should be continued to add to the Materia Medica those products which science and practice have demonstrated to be of use. No article should be retained in the Pharmacopoeia because of some particular interest desiring its retention. No article should be added to the Pharmacopoeia because of any particular interest desiring its incorporation. I would not be so optimistic as to claim that justice can always be done to matters of this kind. I realize, as we all must, that sometimes things are omitted that should be retained and at times things are added which should be omitted. This is a common fault of mankind and not a particular weakness of the Pharmacopoeia.

Make-up of the Revision Committee

One of the chief functions of the Committee of Revision is to choose the heads of the different departments of investigation. The number now is fixed at fifteen. It may be restricted or it may be extended, but at least we all realize the necessity of the division of the work of revision into various heads. This act of division and the work of selecting the men to be at the head rests solely with the Committee and is not subjected to any dictation or restriction on the part of the Convention. What I urge now particularly, is that the members of this Revision Committee should be selected with due regard to the different departments of investigation. There should be men on the Committee who are expert analytical chemists; there should be on the Committee expert research chemists; on this committee must be competent botanists, physiologists, pharmacologists; experts in vegetable drugs; experts in synthetic drugs and in short, there should be representatives of every branch of science and research which enter into the making of the Pharmacopoeia. If such experts are not selected now they can only be selected for vacancies which occur by reason of death or otherwise. The Committee has the power to fill these vacancies by its own electorate. I cannot urge too strongly upon the delegates that are soon to assemble to suggest to this Convention the names of those whom they deem fit to serve on this Committee to scan this list with the utmost care and good judgment. This admonition I realize is hardly necessary because I feel certain that such an attitude will be assumed by the nominating Committee from the time it begins its arduous labors until they are finished.

Too Large a Body to Do Work Uniformly

I desire to make one further suggestion which I am impelled to make as the result of my experience during the past ten years as a member of the Committee of Revision. We have found that there are different degrees of activity among the fifty members of the Committee. Some of the members are eager, anxious and earnest in their work and give a great deal of their time and attention to the problems which arise; others appear to be somewhat negligent. Very frequently they are slow in casting their ballots on questions which are submitted to them. They do a minimum amount of work. My experience also leads me to believe that even if every member of the Committee should work earnestly on all of these problems, it is too large a body of workers to do the work uniformly, according to established methods and in a manner sufficiently regulated as to lead to uniform results. What we should strive for is accuracy, but we never can arrive at accuracy if fifty men follow fifty different paths to get there; some of them will be lost and all the paths will not converge at the same point.

The suggestion which I have in my mind is that steps be taken before the next Decennial Convention to reorganize this Committee on a somewhat different basis. I suggest that the name be changed to the Electoral Committee, that the functions of this Committee should not be to revise the Pharmacopoeia. but to elect a group of five or ten or even fifteen or whatever number might be deemed to be the most efficient to take full charge of the Revision. A compact body like this will be undoubtedly more efficient and reach more definite results and in a shorter period than can possibly be secured with the present heterogeneous arrangement.

I desire also in this connection, to suggest that it would be a comparatively easy matter to arrange for the chemical, biological, pharmacolcgical and botanical expert investigations in connection with the laboratories of the great Departments of the Government that are now affiliated with this organization. The expense to the Government would be trifling. The work will utilize existing laboratories, materials and workers. The laboratories of the Department of Agriculture, the Treasury Department and of the Department of Commerce are all fully equipped with experts of high skill and great ability to perform all laboratory and research work desired. If the governing body of the coming Decennial period should request the Congress of the United States to authorize the conduct of work of this kind, my experience with legislation leads me to believe that the request would be readily granted. I feel quite certain also that the various scientific Bureaus referred to will be glad to collaborate in this work. The work of the Executive Committee on Revision would be largely devoted to the problem of scope and therapeutics and to the supervision of the work to be done in the laboratories; the collection of the data; the editing of the data and the incorporation of these data in the text of the new Pharmacopoeia.

Ninth Revision a Distinct Advance

I could not very well refrain, in an address of this kind, from referring to the conduct and activities of the present Pharmacopoeial Convention. During the past ten years the greater part of this activity and the greater part of the work accomplished you are familiar with in the book which contains the 9th Revision of the Pharmacopoeia. I believe that every member of this Convention is willing to accord to that Committee the merit of industry, conscientious investigation and fruitful research. While no one claims perfection nor freedom from error, I think it is generally admitted that this book is a distinct advance. The records of the Decennial period, as far as the Convention itself is concerned, have been kept by our very efficient secretary, Dr. Motter, and he will speak for himself in regard to this work. I may say that insofar as the President of the Convention is concerned his principal activities are in connection with the Decennial meetings of the Convention and the intervening years are more or less opportunities for leisure.

Finances Satisfactory

As regards the finances of the Convention, the data are completely covered by the reports of the Secretary of the Board of Trustees and Treasurer of the Convention. I congratulate the Convention on having accumulated a nest-egg which is invested in what is regarded as gilt-edge securities if we may regard the Government of the United States as established on a stable foundation. We have no debts, we have a constant and continual income from the sale of the English Edition and just now we are beginning to have an income from the sale of the Spanish edition. It is a matter of pride I am sure to you all that we have enlisted our friends of Latin America in this work. It would be well if our constitution could be so altered as to admit national medical and pharmaceutical bodies and schools of medicine and pharmacy in the Latin Americas to participation in these Decennial gatherings If we are not quite ready to give them the right of suffrage, I think we are quite ready to greet them as professional brethren and to accord them all the privileges of the floor of the Convention other than that of franchise. Personally, I should not be averse to seeing such changes in our constitution made as to admit them to full suffrage.

Vision of a Pan-American Pharmacopoeia

In this connection I want to call your attention to the fact that the great Dominion of Canada is more nearly related to us in all physical, political, agricultural and financial activities than it is with the mother country. There is every reason to believe also that from a medical and pharmaceutical point of view the ties of the Dominion are stronger with the United States than with the mother country. If we consider opening our doors to our Latin friends on the south we might also well consider the advisability of opening our doors to our cousins on the north. The Pharmacopoeia is not meant alone for the boundaries of one country, but for all contiguous countries, especially in the same hemisphere. We ought not, moreover, to neglect the islands so intimately associated with us politically and industrially, I refer to Porto Rico, Hawaii and the Philippines.

Tribute to Deceased Revisionists

Death has not spared the official members of this Convention during the past decade, nor have the delegates to the former Convention escaped. The usual number have done their last work and gone to their final reward. A few among these who have departed need more than a passing notice.

Since our last Convention, the revered President of the former Convention, Dr. Horatio C. Wood, has passed away. He was unable, on account of a chronic and incurable affliction to appear in person at the last Convention. It was my good fortune to know Dr. Wood personally and to have had with him a very interesting correspondence. He was a man of remarkable intelligence and initiative. His interest in medicine though great and all absorbing was no more dear to him than his interest in pharmacy. He lived almost to the expiration of the present decennial period without ever having completely recovered all his faculties. It was to the great joy of the members of his family and his host of friends, however, that a great improvement in his health occurred in the last years of his life. Though not a member of the present Convention, we claim him as a colleague and honor him as a benefactor and mentor.

Another distinguished name among the stelligeri is that of Joseph P. Remington. What can be said of Remington which will in any way do justice to his labors and his memory? If Louis XIV could with justice say, "L'état, c'est moi." Remington could with equal justice have said, "The Pharmacopoeia, it is I." With unremitting toil he devoted himself to the arduous labors of revision, carrying at the same time upon his shoulders the work of the college. The burden was too great even for his strong physique, at last the change came. It was seen by his friends that he was breaking down. He was urged to lighten his labors and his load. He refused and the consequences were easily foreseen. Not only his physical ability failed, his mental power became clouded, he became an invalid. Even in his delirium it was easily seen that it was the Pharmacopoeia on which his mind was dwelling. Almost his last audible words were connected with the great work to which he devoted himself and to which he made the supreme sacrifice. Long will his work be recognized throughout the world, long will his personality be remembered by his profession, the memory of him will never fail from his personal friends.

It is well known that there are rays of light so ethereal in the delicacy of their vibrations that they are not perceived by the human eye. There is no reason to doubt that if this light were visible it would be the softest and most beautiful in the world. It is well known that there are vibrations of sound so minute as to escape detection by the human ear, but if this sound could be made audible and voice the speech of those who have gone before, the words would be the most delightful which we have ever heard. These colleagues of ours have entered on the long, long trail of eternity. They may show themselves to us by this invisible light. They may speak to us through this inaudible speech. They are dead, insofar as this life is concerned, but they live in the hearts and memories of those they have left behind. In the beautiful imagery of that greatest poem of the war, they say to us:

> "We are the dead; from our palsied hands we throw the torch of combat to you—Bear it worthily on high, else we cannot sleep."

Work Touched Many Human Interests

Gentlemen of the Convention: Ten years ago when I was so unexpectedly called upon to occupy the office which I am now about to surrender, I gave you, as well as I could my heartiest thanks for the honor you conferred upon me. Before I relinquish this honor I want to express to my associates of the Board of Trustees and the other officers of the Convention my appreciation of the collaboration which they have given me. I doubt if ever in the history of Government so important an executive office as that exercised by the Board of Trustees, involving so many complex questions both of science and finance and touching so many human interests of all descriptions has passed with such complete amity and mutual confidence and respect. Sometimes it may be thought that a storm clears the atmosphere. The atmosphere in which the Board of Trustees has lived has never needed clearing. There has not been in it a fog, a cloud or particle of dust or germ of disease in these long ten years. Our intercourse has been marked by amity, our work has been carried on in the spirit of devotion to the welfare of the Convention. We have had no bickerings, no envies, no ambitions, except the one ambition to do our work and to do it well. The Secretary of the Convention and its Treasurer have collaborated in this great work. I believe that all are ready to lay down our burdens without a single regret as to the attitude which we have held toward them and toward our fellow workers. It is true we may regret not having done more and not having done what we have done more efficiently.

As I look back on these ten years of effort and industry I feel that they have been the most delightful and pleasing years of my life. Not only do I thank the Convention of 1910 again for the high honor which they have conferred upon me, but I want to assure all my co-workers of the high personal and official respect in which I hold each one of them.

My work is now about finished. This is true, not only of the Pharmacopoeial Convention, but of the general activities of life. I have reached the age when I know the hour for stopping work is near at hand. I am extremely glad, so glad that I do not know how to express my joy, and especially in this last great work in which I have been engaged, that the environment has been so grateful and the work so delightful. *Moribundus vos saluto.*

Radium Scarcity

Owing to the scarcity of radium—which is now priced in London at £16,000 ($77,864) a gram—and the failure to discover new sources of supply, it is feared the shortage will become exceedingly acute. In the meantime it is reported from London, the Radium Institute is preparing radium for use in medical research by a strange method. A weak solution is made which gives off radium emanations; these, which are only detected by delicate instruments, are bottled into tiny glass phials and corked, and the phials are sent to medical men. It is stated that the efficacy of such bottled emanations lasts one week.

Sidelights on Pharmacopoeial Convention

General Principles to Govern Next U.S.P. Revision

THE Tenth Decennial Pharmacopoeial Convention, held in Washington May 11 and 12, ushered in the next revision of the U. S. Pharmacopoeia in a very auspicious manner. Harmony prevailed throughout. Things were so different from what they were ten years ago. Judging from distant rumblings just preceding the Convention some lively times were expected at the meeting. One coterie, for example, had a slate for the Committee of Revision, which provided for only one full fledged medical man, the remainder being pharmacists, chemists, botanists, etc. What caused this changed attitude, no one seems to know. One explanation was that the American Pharmaceutical Association delegates were so hospitably treated by the Washington local committee that all belligerencies subsided as the meetings progressed.

President Harvey W. Wiley called the meeting to order Tuesday morning, May 11. Dr. W. A. Bastedo, 5th vice president, presided while the president delivered his decennial address. This happy, interesting, spicy and sentimental address undoubtedly had a very salubrious influence on the assembly. Who of us will soon forget the impressiveness of the silent standing for a few moments in honor of those great spirits who had departed during the past decade?

We all listened with interest, how the Pharmacopoeia was inaugurated, solely by the medical profession. The hope was expressed that medicine would not forget its offspring, but it looks as if pharmacy already loves this husky child better than does its own Mother.

The President pleaded for a Pharmacopoeia, free from the taints of whiskey and brandy. This responsibility under the law now largely rests with the medical men of this country. It needs only a few of our medical brethren to debase and bring low indeed a very worthy profession.

The President's address was referred to the following committee: Drs. G. H. Simmons, Reid Hunt, W. M. Barton, H. V. Arny and Prof. E. F. Cook.

The Secretary, Dr. M. G. Motter, gave a brief report of his stewardship and presented a number of resolutions for expediting the work of the Convention, which were adopted. His records show that there were present the only two living incorporators, viz., Dr. Motter and F. M. Criswell, and 284 accredited delegates to the Convention, who represented 128 different bodies.

The Assistant Secretary Dr. N. P. Barnes invited attention to some of the difficulties of the Committee on Credentials. The committee began sending out credential blanks a year ago and the returns have been coming in from last December to this morning's mail. There seems to be no reason why the various organizations should not have their credentials in the hands of the Committee at least a month before the meeting and this should be a rule, otherwise there will be continual confusion and dissatisfaction at the last hour.

Dr. James H. Beal, Chairman of the Board of Trustees in his report regretted the necessity of limiting funds for research. The aim of the Trustees was to allot funds to the most worthy and indispensable lines, as they saw it. With the greatest circumspection the Trustees found themselves heavily indebted at the time the manuscript was ready for the press. Some of the funds were obtained upon the personal credit of the members of the Board. Questions had formerly been raised as to the number of books actually published. In order to avoid suspicion this matter was controlled by the Trustees by printing serially numbered coupons, which were issued to the publisher, who in turn pasted them into the books, ordered by the agent through the Secretary. A record of the number of books published was therefore kept by the Trustees, the publisher and the agent. The Secretary's report shows that the total number of copies printed up to April 15, 1920 was 60,000, of which 51,408 copies are sold.

The Spanish edition cannot be looked upon as a profitable financial undertaking, but it is a compliment to the scientific attainments of our Latin American brethren. The undertaking is in a fair way to pay for itself. The total amount in royalties to date amount to $6,748.20. The charges varied from nothing to $3,500.00. The Trustees recommend several changes in the By-Laws, which were adopted, one of which granted representation in the Convention to the N. A. R. D., The American Drug Manufacturers' Association and The National Association of the Boards of Pharmacy, the United States Division of Customs and the University of Havana.

The Secretary of the Board of Trustees, Dr. H. M. Whelpley, presented his report in printed form, but directed attention to several interesting features. The charges of the sub-committees of revision varied from $16 to $800. The gross profits of the Convention for each book sold are as follows: cloth, $1.45; buckram, $1.55; sheep, $1.53; flexible, 48 cents; unbound 94 cents; Spanish edition, cloth $2.17 and buckram, $2.48.

The Treasurer, S. L. Hilton, submitted his report in printed form, but offered some comments. He received $8,394.01 from the former treasurer; the total receipts for the ten years were $171,400.84; on hand $35,000 in Liberty Bonds; cash on deposit $3,092.40; total, $38,092.40.

Afternoon Session

The meeting after a recess was opened with a roll call. After this call the President declared the convention properly constituted for business and that each organization had one vote in the nominating committee.

Prof. Chas H. LaWall, as chairman of the revision committee, presented his report. He lamented the loss of the one who had borne the burden and heat of the day and felt that his report lacked the fire and enthusiasm which would characterize the report of Prof. Remington who was chairman for nearly seventeen years.

The plan of revising the last Pharmacopoeia was thoroughly set forth. Criticisms of too much time consumed, were common, but seldom well considered. The chairman made a number of suggestions for expediting the work. He believed each group of workers should be responsible for certain lines of work; for example, medical men for medical matters, chemists for chemical subjects, pharmacists for pharmacy, etc. The late Chairman Remington believed that the votes of persons specially qualified on certain subjects should have much greater weight in the final decision than do others. It was specially voted that only members of the committee holding M.D. degrees shall be eligible to vote on what medicinal substances shall be introduced into the Pharmacopoeia.

Chairman LaWall said "The plan of subdividing the work into fifteen different headings has worked out well in practice." He thought by proper planning the next revision could be gotten out in two years.* The last work of the 1910 committee of revision was the drafting of a set of General Principles which were submitted at the proper time.

On motion the Chairman's address was referred to a special committee of three consisting of J. A. Koch, H. C. Wood, Jr., and W. J. Rudd to consider the recommendations contained therein.

On motion of Dr. S. S. Cohen, a committee, consisting of the mover, G. M. Beringer and Chas. H. LaWall, was appointed to prepare suitable resolutions expressing the appreciation of the Convention of the devoted and life-sacrificing labors of Prof. Remington and expressing our sympathy to his family.

Prof. E. Fullerton Cook, Secretary of the Committee of Revision outlined some of the machinery of revision with suggested improvements. One was that the newly elected committee of revision organize before leaving Washington. This would save much time. He believes more conferences would expedite the work greatly.

The nominating committee met in the evening and organized with Dr. Henry Beates, of Philadelphia, Chairman, and Samuel C. Henry, of Chicago, as Secretary. After a brief discussion it was agreed by motion that the committee of revision should consist of 17 physicians and 33 pharmacists, the latter term meaning all lines excepting medical.

These nominees and the officers of the next convention were subsequently elected as reported in the June Era.

Second Session

At the second session held on May 12 Dr. H. V. Arny, chairman of the Research Committee, informed the Convention that the American Pharmaceutical Association Council had decided to organize a National Committee on Pharmaceutical Research composed of one representative from several national bodies interested in research, and suggested that the Convention authorize the appointment of a delegate. Agreed to by vote.

The Committee on the President's address reported approval of the recommendation contained in the address and the amendments to the Constitution and By-Laws recommended by the Board of Trustees were adopted as read.

The Remington Memorial Committee made its report from which the following paragraph is taken. "This assemblage attests its esteem for his character, its love for his personality, its admiration for his learning and extends to his family its sincere sympathy in their bereavement in which it likewise claims to share." The reports for improving the Pharmacopoeia were received and referred to the Committee on Revision. The titles of these will be published in the Proceedings of the Convention.

As the last function of his official duty Dr. Wiley installed all the newly elected officers and on leaving the office made a touching farewell speech.

The next order of business was a discussion and adoption of the General Principles to govern the action of the Committee of Revision, which in their final form are as follows:

1. Object and Scope of the Pharmacepoeia

The object of the Pharmacopoeia is to provide standards for the drugs and medicines of therapeutic usefulness or pharmaceutic necessity sufficiently used in medical practice throughout the United States and its possessions; to lay down tests for the identity, quality and purity of these; to insure, as far as possible, uniformity in physical properties and active constituents.

It is recommended that the Committee of Revision be authorized to admit into the Pharmacopoeia a carefully selected list of medicinal substances of known origin, but no substances or combination of substances shall be introduced if the composition or mode of manufacture thereof be kept secret. A statement shall be placed in the preface to the effect that standards for purity and strength, described in the text of the Pharmacopoeia, are intended solely to apply to substances which are used for medicinal purposes or determining the identity and purity of the same.

2. Doses

It is recommended that after each Pharmacopoeial article (drug, chemical or preparation) which is used, or likely to be used internally or hypodermically, in stating doses in the Pharmacopoeia the Committee of Revision be instructed to state the average approximate (but neither a minimum nor a maximum) dose for adults, and, where deemed advisable, also for children. The metric system to be used, and the approximate equivalent in apothecary weights or measures inserted in parenthesis. It is to be distinctly understood that neither this convention nor the Committee of Revision created by it intends to have these doses regarded as obligatory on the physician or as forbidding him to exceed the doses given, whenever, in his judgment this may seem advisable; the Committee of Revision shall make a distinct declaration to this effect in some prominent place in the new Pharmacopoeia.

3. Nomenclature

It is recommended that changes in the titles of articles at present official be made only for the purpose of insuring greater accuracy, brevity, or safety in dispensing and to eliminate therapeutically suggestive titles. That changes in botanical names be made only for well defined reasons, and such changes shall conform to the rules of the International Botanic Congresses.

In the case of newly admitted articles, it is recommended that such titles be chosen as are in harmony with general usage and convenient for prescribing; for synthetic chemicals, with lengthy or unwieldy names, the Committee of Revision shall be empowered to coin short euphonious titles contracted, if possible, from the true chemical names, but in the case of chemicals of a definite composition the scientific name shall be given, at least as a synonym.

There shall also be inserted, after each article used by physicians in prescriptions, an abbreviated name, which may be known as an official abbreviation, in order that uniformity may be established throughout the country, with the object of preventing mistakes in reading and compounding prescriptions, and further, to serve as authorized abbreviations in labeling the store furniture of the pharmacist.

4. Synonyms.

It is recommended that the use of synonyms should be extended in the next revision, and the synonyms printed in the text of the Pharmacopoeia, immediately after the official English name of the substance. When an article is known in commerce under more than one commonly used English name, such vernacular titles may be given as synonyms. A statement shall be made in the Preface of the Pharmacopoeia that substances labeled with an official synonym must comply with the same standards, tests and requirements as are demanded for the article under the official title.

5. Purity and Strength of Pharmacopoeial Articles

It is recommended that the Committee of Revision be instructed to carefully revise the limits of purity and strength of the Pharmacopoeial chemicals and preparations, for which limiting tests are or may be given. While no concession should be made towards diminution of medical value, an allowance should be made for unavoidable, innocuous impurities or variations due to the particular source or mode of preparation, or to the keeping qualities of the several articles.

The "Purity Rubric," which limits the percentage of innocuous impurities, as introduced in the previous revision, should be continued, and tests and requirements should be appended to each article for which a "Purity Rubric" is given.

6. International Standards

The International Conference for the Unification of Formulas for Potent Remedies performed a signal service for all countries by recommending the various pharmacopoeias of the world to adopt certain standards for potent medicines. It is recommended that the Committee of Revision retain or adopt these standards wherever practicable, but it is believed that it would be unwise to require the acceptance of the details of pharmaceutical or other processes recommended by the International Conference.

If the finished product conforms to the International standards, we believe that each country should be left free to adopt such detail and manipulation as may seem to it best. Nothing should prevent, however, the adoption of the recommendations of the Conference, as to details, if in the opinion of the Committee of Revision the Pharmacopoeia can be improved by so doing.

The advances in science since the International Conference at Brussels in 1902 would indicate that International standards then adopted are not such as would be approved at this time as being in conformity with our present knowledge and ideals. It is recommended that, as soon as conditions will warrant, the Pharmacopoeial Convention take the initiative of calling another International Conference for the unification of standards and formulas for potent remedies.

7. General Formulas

In view of the success attending the adoption of General Formulas in the U. S. P. IX for fluidextracts and tinctures, it is recommended that this principle be extended to the other official classes of preparations wherever practicable, and where preparations can be made by identical processes, that the General Formulas to be followed in each case shall be indicated in the text by reference.

8. Appending a List of Preparations in Which an Official Article is Used

It is recommended that, especially for the convenience of practicing physicians, there shall be appended after each article in the text a list of the official preparations in which it is an active essential ingredient.

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*The first edition of the Pharmacopoeia was in print within one year after the meeting of the delegates.

9. Alcoholic Percentage in Official Preparations

It is recommended that a range of the content of absolute alcohol, by volume, be stated in the Pharmacopoeia, accompanying the text, for each preparation containing alcohol.

10. Assay Processes

It is recommended that the Committee of Revision be instructed to introduce Assay Processes for as many of the potent drugs and preparations made therefrom as may be found practicable and which lead to fairly uniform results when applied by different analysts; wherever feasible, tests of identity and purity are to be given for the products of such assays.

Where reliable methods of chemical assay are not possible, and concordant and dependable methods of pharmacodynamic testing are available, then the latter methods of standardization be adopted.

11. Serums and Other Biologic Products

It is recommended that serums and other biologic products, of approved usefulness, if standardized by a department of the Federal Government be admitted to the Pharmacopoeia.

12. Weights and Measures

It is recommended that the Committee of Revision be instructed to retain the metric system of weights and measures.

13. Atomic Weights

It is recommended that the Atomic Weights adopted in the revision shall be based upon oxygen taken at 16 (O=16), and in accordance with the latest available report of the International Committee on Atomic Weights.

14. Physical Constants

It is recommended that official methods for taking physical constants shall be stated in the Pharmacopaeia, and these shall apply to all articles in which physical constants are officially used, unless otherwise specifically excepted.

15. Standard Temperature

It is recommended that the standard temperature of 25° C. (77° F.) be retained in the revision (except for alcohol and in other special uses), and that an alcoholometric table be inserted in Part II giving the percentage of alcohol at different temperatures.

16. Compound Preparations

It is recommended that the introduction of compound preparations be discouraged as far as poossible.

17. Pharmacognostical Descriptions

It is recommended that with the description of a crude drug there be included brief, pharmacognostical descriptions, both macroscopic and microscopic where practicable, and, as a means of detecting adulteration, there shall be added a statement of the appearance of the distinctive structural elements in the powder, when examined microscopically.

18. Powdered Drugs

It is recommended that powdered drugs be required to represent the entire drug unless specifically stated otherwise. Where the drug can be powdered without residue this should be required; in other cases the amount of allowable tailings, gruffs, or residue should be determined and inserted in the text.

19. Solubilities

It is recommended that the degree of solubility of official substances in various solvents be given as completely as practicable.

20. Sterilization

It is recommended that there be included in the Pharmacopoeia a chapter on Sterilization.

21. Committee on Drug Markets

It is recommended that the Committee of Revision be empowered to appoint a Special Committee to make an investigation of the quality of crude drugs in commerce, and that this committee be especially instructed to endeavor to determine the proper limits of variability, due to soil and climatic conditions, or collection, or handling, and to suggest such improvements as can be introduced in the collecting, marketing and preservation of crude drugs.

22. Publicity

It is recommended that the Committee of Revision make public for comment and criticism, an abstract of new descriptions and standards, and all important changes in preparations and standards proposed, before final adoption.

23. Formulation of Rules

In all matters not especially provided for by the "General Principles" adopted by the convention, the Committee of Revision is empowered to formulate such rules as it considers necessary.

24. Date When the Next Pharmacopoeia Becomes Official

It is recommended that the Committee of Revision print upon the title page of the next Pharmacopoeia a definite date, reasonably distant from the actual date of publication, announcing when the new Pharmacopoeia is intended to go into effect and to supersede the preceding one.

25. Spanish Edition

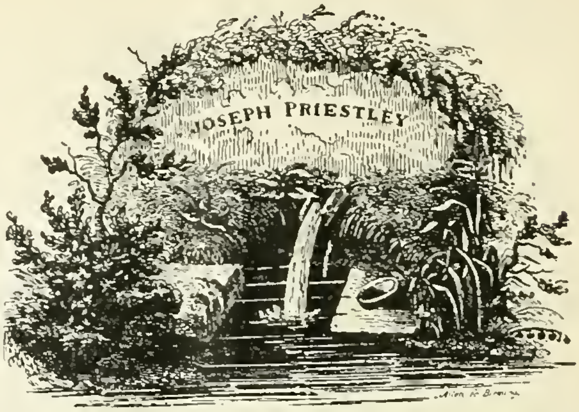
It is recommended that the Tenth Revision of the United States Pharmacopoeia be translated into the Spanish language and published.

26. Supplement.

It is recommended that the Committee of Revision be authorized to prepare supplements to the Pharmacopoeia, or lists of admission or changes at any time they may deem such action desirable.

The Societe Chimique des Usines du Rhone of Paris has issued on behalf of its American subsidiary an announcement of the election of Max Mueller as president to succeed John J. White, who has withdrawn from the company, his connection therewith having terminated on June 2. The Rhodia Chemical Company has offices at 135 Cedar street, New York City.

BOOKPLATE OF DR. PRIESTLEY



Pharmacists who have followed the scientific side of their profession will be interested in the reproduction of a bookplate found in a volume which once belonged to Dr. Joseph Priestley. The facts concerning this interesting find are told in a recent issue of the *Journal of Industrial and Engineering Chemistry,* one of the publications of the American Chemical Society, as follows:

Dr. C. A. Browne, of New York, a member of the American Chemical Society, has just become the possessor of a volume bearing the bookplate of Dr. Joseph Priestley, the noted English scientist of the eighteenth century who discovered oxygen.

As will be remembered, the famous library of Dr. Priestley was pillaged during the Birmingham riots of July, 1791. As a result of his very unpopular and openly expressed sentiments regarding the French revolution and the fact that he was a dissenting clergyman, a mob burned his church and ransacked his house and laboratory, working destruction among his valuable manuscripts and books. Many of these were scattered broadcast, while most of the complete sets were never recovered.

The book acquired by Dr. Browne is entitled, "The Laboratory or School of Arts," and is a translation of a German collection of receipts for working gold, silver and other metals. It was published in London in 1738, and its plate was engraved by Allen, of Birmingham.

The engraving is typical of the work of the man who worked so much upon the composition of water. It represents a silvery stream flowing through a spout under a rock into the depths of a clear pool. A stone curb covered with grass and flowers encircles the spring, and a cup at one side invites the thirsty traveller. Upon the rock is carved the name of JOSEPH PRIESTLEY. The design is unique in its simplicity and charm, and will revive general interest in the life and work of the noted scientist.

This find is particularly timely, in view of the fact that Priestley House in Northumberland has been lately moved to the campus of Penn State College, at State College, Pennsylvania, while a Priestley Memorial Committee has been appointed by the American Chemical Society. The Society, which has now 15,000 members, was founded at the grave of the renowned scientist in Northumberland in the year 1876, and is thus a perpetual and living memorial to his genius.

A royal decree recently issued in Spain prohibits the importation, except by recognized persons, of opium (including the extract and any residue containing alkaloids), morphine, codeine, heroin, dionin, cocaine (and salts of these), coca, antipyrin and all other products of similar action. The minimum quantity of the alkaloids, etc., of opium and coca which can be imported is half a kilogram, which must be in one container. In the case of opium, etc., antipyrin and coca, the minimum quantity is three kilograms.

THE QUESTION BOX

The "How to Do It" Department

CONDUCTED BY PHARMACEUTICAL EXPERTS

For the benefit of ERA Subscribers

Non-Alcoholic Flavoring Extracts

(M. R. D.)—See our reply in answer to a similar inquiry in the March, 1920, Era, page 77. Among the formulas suggested for non-alcoholic flavorings proposed for introduction into the A.Ph.A. formulary three or four years ago, are the following for powders or pastes, which have sugar as a base, and are made to correspond in strength to the flavoring extracts:

Flavoring powder of almond is made by triturating 20 cc. of oil of bitter almond with 980 grams of powdered sugar.

Ginger, by triturating 10 grams of oleoresin of ginger with 990 grams of powdered sugar.

Lemon, by mixing 50 cc. of oil or 5 cc. of terpeneless oil of lemon with powdered sugar to make 1,000 grams, and tinting the powder yellow with turmeric or saffron. These powdered flavors are used to avoid the employment of alcohol in the extracts. If a paste is desired mix in enough glycerin to obtain a paste of the desired consistency—or better, make a paste with a mixture of equal parts of glycerin and sugar. Powders and pastes are more sensitive to exposure than liquid preparations and must be kept in well-closed vessels. They are preferably put up in collapsible tubes.

Frosting Mixture for Glass

(1)

(Subscriber)—As a temporary "frosting" for mirrors or window glass, make a saturated solution of magnesium sulphate in warm soft water. In another portion of water dissolve sufficient dextrine to make a syrupy liquid, which add to the solution of magnesium sulphate. Filter the mixture through thin muslin and apply the filtrate to the mirror quite plentifully, using a clean sponge for the purpose. As the moisture evaporates from the applied liquid, flower-like crystals of magnesium sulphate form and adhere to the glass, which may be given a degree of permanency by applying over them a thin coating of shellac in alcohol. The application is best made during a season of dry weather. By dissolving in the magnesium salt solution a small quantity of any water-soluble aniline, crystals of almost any desired tint may be produced.

(2)

A method used by painters for frosting windows is the following; Put a piece of soft or fresh putty in muslin, twist the fabric tight and tie in the shape of a pad; after cleaning the glass thoroughly, pat over the surface with the pad. In this way the putty exudes sufficiently through the muslin to cover the glass with an opaque stain. Let this stain dry hard and cover it with a thin light-colored varnish. If a pattern is required, cut it out in paper as a stencil: place it so as not to slip and proceed as above, removing the stencil when finished.

(3)

A more permanent "frosting" is produced as follows; Roll up tolerably tightly a slip of tin, about 6 or 8 inches in length and about 2 inches broad, or use a small flat piece of marble. Dip either of these in glass-cutter's sand, moistened with water; rub over the surface of the glass, dipping frequently in a pail or pan of clear water. If the frosting is to be very fine, finish with washed emery and water. During the operation the glass should be laid on a soft bed of baize, or coarse linen.

Kieselguhr: Armenian Bole

(I. R. G.)—Neither of the products, which are mentioned on page 344 of the Era Formulary, carries a distinctive chemical name as you suppose. Kieselguhr is a soft, white, earthy rock composed of the siliceous skeletons of small aquatic plants called diatoms. Besides the name kieselguhr, it is variously known as infusorial earth, siliceous earth, diatomaceous earth, fossil flour, tripolite, etc. It appears in the form of white powder or lumps, capable of taking up and holding about four times its weight of water. It is found in deposits in various places of the world, many of them being in the different states in this country. It is usually shipped in bags, barrels or other containers, and is used as a dynamite absorbent, packing for inflammable or caustic substances, heat insulation, filtering medium, in ceramics, abrasives, soaps and medicine, a purified variety being official in the U. S. P.

Armenian bole is a variety of argillaceous earth, so-called, we believe, because of its resemblance to the substance originally brought from Armenia. It is prepared by trituration and elutriation from certain native earths existing in different parts of Europe. It appears in pieces of various sizes, reddish, soft and unctuous, adhesive to the tongue, and capable of forming a paste with water. It consists chiefly of a hydrated aluminum silicate with ferric hydrate, and was formerly employed in medicine as an absorbent and astringent in the treatment of acidity of the stomach, relaxed bowels, etc. It is said in the trade that it is now principally used in tooth powders and the like.

Sticky Fly Catchers

(G. D. P.)—The sticky mixture employed in the manufacture of fly paper is usually a compound of rosin and castor oil heated together and applied to the paper, the proportions as well as the incorporation of other substances varying somewhat, according to the individual ideas of the particular manufacturer. The manufacture of sticky fly paper on a small scale is said to be impracticable, as the use of labor-saving machinery is necessary for turning out a satisfactory finished product on a commercial scale.

The following method for "sticky fly traps," devised mainly for use at the front in the recent war, was published in the "Chemist and Druggist" (London) two or three years ago, and may answer your purpose: The sticky mixture, or fly glue, is prepared by melting powdered rosin, 2, in castor oil, 1. While hot, this mixture is painted on lengths of old wire or strips of paper. In camps or similar places thick wire, cut into lengths of about 2 feet, hooked at one end and coated with the fly glue, forms effective traps; they are not easily blown about as papers are. The wires should be changed every two days. Flies settle readily on anything narrow and dark which is suspended vertically. If papers can be used, old newspapers cut into strips 3 inches wide may be used. One of these laid on a board is painted with the hot glue. Another strip is laid on this, and again painted. The pile of coated papers may then be carried on the board and stripped off as required to be hung up. The author states that he has tried the addition of honey and other flavors to the sticky mass, but does not find any to be more attractive than the plain basis. The "fly glue" will keep for any length of time.

An automatic fly poisoning trap which has been described in a number of journals, and which is about as easily operated as any method we know of for getting rid of flies, consists in making a solution by dissolving 3 tablespoonfuls of sodium salicylate in 16 fluid ounces of water. With this solution fill a tumbler, cover the tumbler with a sheet of white blotting paper, and over this invert a saucer. Then quickly turn the whole outfit upside down so that the glass of water in which the sodium salicylate has been dissolved will be standing in the saucer. Insert a matchstick under the edge of the glass so as to allow a small portion of the solution to escape. Set this device where flies will be attracted to it. Drink of the solution will kill the flies.

Essence of Pepsin

(H. M.)—A formula under the title "compound elixir of pepsin," with its accompanying synonym, "Essentia Pepsini," is given in the 4th revision of the National Formulary. This formula is identical with that for "essence of pepsin" official in the 3rd revision of the N. F. Other formulas which have been recommended for the preparation of essence of pepsin are the following:

(1)

Stronger glycerin of pepsin	7½ fl. ounces
Elixir of gluside	30 minims
Syrup of citric acid	1 fl. ounce
Tincture of orange	1 fl. ounce
Distilled water	2 fl. ounces
Sherry to	20 fl. ounces

The stronger glycerin of pepsin is made by adding 3 ounces of pepsin to 6 fl. ounces of distilled water, previously mixed with 1 fl. ounce of diluted hydrochloric acid and 10 fl. ounces of glycerin, shaking well and then setting aside until clear; then decant or filter and add 1 fl. ounce of simple elixir, with sufficient distilled water, if necessary, to make up 20 fl. ounces. This formula is taken from the B. P. Codex and the quantities given in both formulas refer to the British Imperial units of measure. Elixir of gluside is the British official name for elixir of saccharin.

(2)

Pepsin (scales)	5.5 parts
Rennin	1.85 parts
Tincture of orange	5.75 parts
Tincture of lemon	2.5 parts
Syrup	7.5 parts
Glycerin	20.0 parts
Elixir of gluside	0.415 part
Best pale sherry	15.0 parts
Distilled water to make	100.0 parts

(3)

Scale pepsin	128 grains
Glycerin, by weight	4 ounces
Hydrochloric acid	20 minims
Sherry wine, free from tannin	11 fl. ounces
Soluble elixir flavoring	1 fl. ounce

Mix the liquids and dissolve the pepsin in the mixture; after 12 hours, filter. A fl. dram contains 1 grain of pure pepsin.

PERCOLATION

A. Goris contributes to *Bull. des Sciences Pharm.* an interesting study of the theory and practice of percolation. After briefly reviewing the history of percolation, he proceeds to consider the forces at work during the first stages of percolation, viz.. weight and density of the menstruum. capillarity, diffusion, osmosis, and viscosity, the conclusion arrived at being that there must exist an optimum rate of flow. The principal advantage of percolation is the increased yield of tincture or extract, but it must also be borne in mind that in percolation a liquid containing substances in solution may have, and often has, a solvent power with regard to other substances that the pure liquid does not possess; thus with rhubarb the presence of gallic acid, cinnamic acid, and gluco-gailin enables the menstruum to dissolve hesperidin and isohesperidin. A further advantage is that the active constituents are rapidly withdrawn from the action of enzymes. Bridel has shown that tincture of gentian (made from a root containing gentiopicrin) made by maceration is devoid of gentiopicrin, which is destroyed by the enzyme, whereas when made by percolation the gentiopicrin is retained. The state of subdivision of the drug is not without influence; it might appear that the finer the powder the better the exhaustion would be, but experiment has shown that with cinchona bark a coarse powder gives the best result, with ipecacuanha a medium, and with stramonium a fine. The powders should be dried, at least so far that the amount of moisture does not exceed 2 to 5 per cent. Moistening the drug, sifting, and preliminary maceration are regarded as necessary. The form of percolator to be preferred is that recommended at the International Conference at Brussels. although according to the author. theoretically a special percolator should be used for each fineness of powder (but his reasoning is not easy to follow). Many experiments are required before any definite rate of flow can be fixed, and in such experiments regard should be had to the fineness of the powder, the nature of the drug, and of the menstruum. Percolation in a percolator surrounded by a jacket in which water is maintained at 80° gives excellent results—(*Pharm. J.*)

THE MEDIUM AND THE ACTION OF DRUGS

The observation of Kunx-Krause that a belladonna extract shows a smaller content of atropine when analyzed biologically than when analyzed chemically led W. Loffler and K. Spiro to test out their suggested explanation that the presence of some colloid in the solvent acts as a protective colloid for the alkaloid. They find that gelatin interferes with the action of histamine on the small intestines of guinea pigs and the interference is proportionate to the amount of gelatin present. This is not due to increased viscosity of the solution since gum arabic and tragacanth which cause smaller viscosity changes have a similar effect. It is not a specific effect of the added colloid since the same colloids when added to adrenaline, opposite in effect from histamine, show a similar interference with the effect of the drug. Serum increases the effect of both histamine and adrenaline. Milk interferes with the action of histamine; when the protein is removed the interference largely disappears.—(*Kolloid Z.*, through *Chem. Abstracts*)

The Progress of Pharmacy

Manufacture of Synthetic Ammonia in Italy—

An enterprising American has secured from the Italian Government a concession for the utilization of 800 horsepower of the waterfalls at Terni, about 70 miles from Rome, and maintains that he can turn out a nitrogenous plant food for the Italian farmer at a cost as low as 1 lira per kilo (equivalent to $0.088 per pound, with the lira taken at its par exchange value of $0.193). It is said that an inspection of the plant seems to justify the high hopes of the promoter of the project. The production of ammonia through the agency of water power has already passed the experimental stage, and in describing the massive electric generators employed to serve the purposes of the new order of things, Commercial Attache Dennis, Rome, states that it was something new to enter a big manufacturing plant and find no raw materials whatever—no coal, iron, steel, lumber or textile fibers. The factors in the equation are simply water, air, and electric energy. In the first stage of the process the water is decomposed into oxygen and hydrogen by electrolysis The hydrogen is stored in tanks exactly like those employed in city gas works, and is then conveyed from these tanks to a receptacle of the size and appearance of an upright hoisting-engine boiler. In this receptacle is carried out a process of which the details are kept secret and which constitutes the essence of the new method of producing synthetic ammonia. Liquid air has no part whatever in the system. The last link in the chain of production is the application of tremendous pressure—running up, it is stated, to 250 atmospheres—to the resultant gaseous products. Ammonia issues from the factory in portable steel cylinders.

Chloropicrin Gas as a Cure for Mange in Horses—

Chloropicrin gas has been found to be quite as effective as sulphurous acid gas as a cure for mange in horses, and has the great advantage of acting much more rapidly. The animals are placed in a box, so constructed that the head remains outside. An adjustable collar round the neck is so fitted as to prevent the escape of gas from the box. The quantity of chloropicrin used is 20 grams for every cubic meter, introduced into the chamber by means of a pulverizer spray syringe. Care must be taken that the spray is not played directly on the animals. The horses are left in the box for thirty minutes. The head of the animal, which has not been subjected to the vapor, is then rubbed with an ointment of chloropicrin 2.5 in petroleum 100. Two such treatments in three weeks will cure most cases. A single treatment is a serviceable routine prophylactic to prevent the spread of mange among unaffected horses. This method does not interfere with the working of the animals.—(*L'Union* through *Pharm. J.*)

Use of Selenium and Tellurium Compounds in Medicine—

The use of the various compounds of selenium in medicine has received some attention, but the derivatives have had almost no systematic study. In a very careful investigation Prof. W. J. Gies, of Columbia University, has shown that tellurium compounds have a physiological action quite similar to that of arsenic but that their toxicity is much less. The selenides and tellurides as well as the oxidized salts have been experimented with in cancer, tumors, and syphilis, but their efficacy is more or less questionable. These few compounds which are of the simplest chemical character are almost the only ones of which any experimental results are recorded. When one considers the vast field of important and valuable sulphur-containing medicinals ranging from saccharin to sulphur itself and in the arsenicals from Fowler's solution to salvarsan, it would seem that there exists an almost virgin field for research by the physiological chemist. The offensive garlic odor of the "tellurium breath" will unquestionably act as a deterrent in the minds of some, but should certain physiological actions be found, they might be so valuable as to overcome the objections due to the characteristic methyl telluride odor. —(*J. Ind. Eng. Chem.*)

Increasing the Production of Camphor—

Camphor is a substance of considerable importance and interest to the pharmacist and druggist, but the consumption of camphor by the drug trade constitutes but a small proportion of the annual output of this valuable commodity. The celluloid, film-making, and other industries absorb enormous amounts, and the recent scarcity and high price of Japanese camphor have induced manufacturers and buyers to look round for other sources from which the product may be obtained. The French Government is causing searching investigation to be made into the question of the manufacture, on a commercial scale, of synthetic camphor, and similar steps are being taken in the United States. France is likewise looking into the possibility of developing the cultivation of the camphor laurel in certain of her colonial possessions, where the tree already flourishes in a natural state. The West Indian Islands are also considering the advisability of cultivating the *Cinnamomum Camphora*, the success of experiments in this direction carried out in the Federated Malay States, affording the agriculturists of the West Indies, a measure of encouragement to proceed with the project. Seeing the great demand that now exists for camphor, the Chinese are beginning to revive their camphor industry, which at one time was the largest in the world—before the Japanese secured, with the possession of Formosa, a practical monopoly of all markets. There has recently been an increased demand, on the part of American refiners, for Chinese camphor, and this demand has resulted in the establishment in the Province of Kwangsi of new and scientific refineries. The Americans hope that with the rejuvenation of the Chinese industry a blow will be struck at Japan's monopoly of the world's camphor supplies.—(*Ind. and Eastern Dr.*)

Cantharides Assay—

Louis Du Bois describes the following laboratory method for the determination of the free cantharidin content of cantharides, which has given satisfactory results both in the concordance of the data obtained and in the apparent purity of the resulting crystals; Take 10 grams of the sample, add 30 mils of chloroform, and let stand overnight. Shake during several hours, filter and wash with 70 mils of chloroform, then evaporate on a water bath. Treat the residue with 5 mils of carbon disulphide, transfer to a small tared filter paper 4 cm. in diameter, washing the crystals remaining on the filter paper with 10 mils of carbon disulphide in small portions. Dry filter at 60° C., weigh, and add 0.010 grams for solvent action of carbon disulphide. This should give the amount of free cantharidin; to obtain amount of combined cantharidin as well, add 2 mils of hydrochloric acid to the original chloroform. Du Bois states that the crystals obtained by this method for free cantharidin are clean, white and well formed, while those obtained with the U.S.P. method have been dark and resinous.—(*Am. J. Pharm.*)

The Originator of "Petri" Dishes—

When Koch was passing through Marseilles, years ago, he visited the laboratory in which Rietsch and Misati were working on the cholera vibrio. He noted they used for their cultures small covered dishes. Several years afterwards, Petri, Koch's assistant, described these dishes, which he was by this time using, in a German journal, but without mentioning the fact that the idea of them was originally obtained from Rietsch. The Germans took care that these dishes were soon known everywhere as "Petri" dishes. Comparatively few bacteriologists at the present time are aware that Rietsch was the real originator of the valuable piece of bacteriological apparatus and not Petri.—(*Rep. de Pharm.* through *Pharm. J.*)

Estimation of Camphor Oil in Camphor—

E. R. Dovey determines the amount of camphor oil present in Chinese crude camphor by submitting a 100 gram portion to pressure in a steel press, and from the weight of the pressed cake the loss of water and oil is obtained. The moisture is determined on the original sample and also on the pressed cake by the calcium carbide or other method, and by difference the weight of water lost in pressing is found. This subtracted from the total liquid expressed gives the amount of oil expressed. It is assumed that the water remaining in the sample is associated with as much oil as that in the expressed liquid, and the total oil present calculated on that basis.—(*P. & E. O. Rec.*)

Iodine Exports from Chili—

Iodine is the most important by-product of the nitrate industry, and is extracted from the liquor which remains after the nitrate has been precipitated Although some sodium iodate is contained in practically all caliche, viz., native Chilian saltpeter, iodine is produced by only a portion of the nitrate companies, and the output of these companies is carefully regulated by a producers' trust in order that the limited market may not be overstocked. The average pre-war exports amounted to approximately 475,000 kilos annually; but during the war, the exports were much larger: 703,800 kilos in 1915, 1,323,000 kilos in 1916, and 759,000 kilos in 1917. Germany was the principal purchaser of iodine before the war, the United States second, and Great Britain third.

Toxicological Detection of Physostigmine—

Physostigmine in quantities of 0.005-0.01 milligram can be detected by means of the biological eye reaction in the cat. H. Fuhner finds that in the case of the plain muscle of the leech minute quantities of physostigmine in the presence of acetylcholine increase, the contraction of the muscle brought about only to a small extent by acetylcholine alone By this joint action of the two drugs on the muscle of the leech 0.0001 milligram of physostigmine can be detected with certainty.—(*Biochem. Zeits.*, through *J. Soc. Chem. Ind.*)

White Mustard Distillation—

Robert R. Lampa calls attention to the statement in the Pharmacopoeia that white mustard does not yield "allyl isothiocyanate upon distillation with steam." This he says is evidently an erroneous statement as the bulk of white mustard yields synthetic oil of mustard upon distillation with steam, usually as much as the requirements for black mustard. It would seem that a white mustard corresponding with the pharmacopoeial requirements in this particular would be practically inert.—(*J. Am. Pharm. Assoc.*)

Arsenic Pills—

Arsenic pills made up with powdered licorice and powdered licorice root, and kept in a bottle, developed within a week a distinct odor of garlic. On investigation this was proved to be due to diethylarsine and not to arseniuretted hydrogen, and caused by *Aspergillus glaucus*, which had grown on the pills. Such pills should, therefore, be well dried and kept in a box, rather than in a bottle.—(*Pharm. Ztg.*)

Preparation of Balsam of Peru—

Balsam of peru is obtained from a tree (*Toluifera Pereira* Baillon, *Myroxylon Pereira*, Klotzsch), which grows wild in the forests of San Salvador, Central America. The trees mostly occur in groups which are usually enclosed, the owner building his hut in the vicinity. The method of collection is briefly as follows; The tree is beaten about a foot from the ground and over a surface of 6 to 10 inches, with a rounded stone or other blunt instrument, until the outer bark is detached and the inner bark left bare. The exposed bark is covered with a piece of woolen cloth to absorb the exudate. The exposed surface is then heated by means of burning torches, whereby a copious flow of balsamic resin is induced, which is also collected on cloths or rags. When the exudation has ceased a cut is made in the exposed surface, which causes another flow of exudation. About a week later the inner bark is removed and the stem begins to exude the balsam. The balsam, therefore, is not, strictly speaking, a natural exudation, but is better described as a pathological product, produced by the tree as a result of external injury. The saturated rags are afterwards boiled with water for several hours, when the balsam sinks to the bottom of the vessel and the impurities which float are removed The water is then decanted, and the balsam poured into gourds and other receptacles for the market. The next year the trees are again tapped, another portion of the stem being selected, and for many years the trees continue to yield balsam. It is therefore not surprising that the product is somewhat variable, as it is scarcely to be expected that the exudation from the same trees in different years will be of uniform composition Again, it is not impossible that the exudation of other trees may find its way into the balsam either through ignorance or as a deliberate adulterant. The analyst has therefore to depend on the physical and chemical characters in order to form an opinion as to the purity of a given sample. The cinnamein-content is undoubtedly the best guide of the value of a sample, but it may be increased by the deliberate addition of artificial esters of benzoic acid. The saponification value of the extracted cinnamein varies from 229-257 according to the proportions of the constituent esters, cinnamein not being a substance of definite composition. The limits fixed by the U S.P (235 to 238) are too narrow, the B.P. giving "not less than 235," which is more correct.—*P. & E. O. Rec.*)

New Uses for X-Rays—

The application of the X-rays to the examination of industrial products is not new, but in a recent lecture at the Royal Institution, London, the speaker stated that miles of cable had been so examined during the war, and in one case it was demonstrated that the loss of a seaplane was due to a badly centered conducting wire. Of two batches of tooth-brushes, the structure of which was exposed by the rays, those of English manufacture showed the bristles securely wired, while in the others they were just "stuck in"—(*Ch. & Dr.*)

The Fate of Quinine in the Organism—

According to Hartmann and Zila, about 40 per cent of the quinine administered to the patient is excreted in the urine and feces, the remainder of the quantity taken apparently being destroyed, as it is not found deposited in the organs of the body. After intravenous injection the amount in the blood sinks rapidly, then moves slowly to zero, while oral administration gives a more constant quinine level which is retained for about twenty-four hours—(*Arch. exp. Path. Pharm.*).

New Books for Pharmacists

MANUAL OF TOILET SOAP-MAKING comprising toilet soaps, medicated soaps, and other specialties. By Dr. C. Deite, with the collaboration of F. Eichbaum, Dr. R. Hirch, E. Noack and other specialists. Translated from the German by Arthur H. J. Keane. Second revised English edition, with 85 illustrations Royal 8 vo., 353 pp. London, Scott, Greenwood & Son; New York, D. Van Nostrand Company.

It would be difficult to imagine any kind of information that one could want about the manufacture of toilet soap that is not contained somewhere in this book, for it is not only most comprehensive in its character, but in wealth of detail, chemistry of materials entering into manufacture, methods of analysis, etc., it represents the most recent technical knowledge and the latest improvements which have to do with the manufacture of toilet soaps and related specialties. If the manufacturer or the pharmacist wants to get a line on the fabrication of any kind of a toilet soap, he is very sure to find just the points he is looking for in this book, whether it be an outline of the saponification, the preparation of a medicated soap, or a recipe for some soap specialty.

Of course, the successful manufacture of toilet soap presupposes considerable technical experience, and one must have a knowledge of the fundamentals, if he is to make any progress in this direction. To this end are discussed the following subjects, an outline of which only can be given; Fats and lyes for the manufacture of toilet soaps, colors, perfumes, as essential oils, balsams and resins, perfumes of animal origin, and synthetic perfumes, the last-named products now being extensively employed in soap manufacture; plant and machinery for toilet soap-making; preparation by boiling, by the cold process, and by remelting; milling; stock soaps and their manufacture; shaving soaps; transparent soaps, soft and liquid soaps, bath, tooth and medicated soaps; stain-removing and polishing soaps, each class being described in detail and supplemented by recipes typical of almost any variety one might desire.

Nor has the analysis of soaps been neglected, as practical methods are given for the determination of the most important constituents of toilet soap, as the percentage of water, of fatty acid, resin, alkalies, glycerin, filling materials, estimation of yield from analyses, testing of fulling soaps, determination of essential oils, alcohol, sugar, dyes, lanoline, testing of medicated soaps, etc. There is also a section on the commercial value of soaps, based on the standards drawn up by the German Union of Soap Manufacturers. On this point the authors state that "when determining the value of commercial soaps, chemists mostly take the percentage of fat as a basis for their calculations; consequently, that soap which contains the highest amount of soap is held to be the best. This, however, is not essentially correct; when determining the value of soaps, it is necessary to take into consideration not only the amount of fatty acids, but also their class, their composition in general, and the purpose for which the soaps are intended to be used."

EXPERIMENTAL ORGANIC CHEMISTRY. By Augustus P. West, professor of chemistry, University of the Philippines. Illustrated with drawings and diagrams, 6x8¼ inches. 469 pages, cloth. Yonkers-on-Hudson, New York. World Book Company.

This volume is a combination of textbook and laboratory manual in which the theoretical discussions and the laboratory experiments are blended together, the author stating his belief that such an arrangement encourages the student to consult the text while he is doing the experiments in the laboratory, and that in so doing he is more likely to perceive clearly the relation between the theory and the practice. An examination of the text shows that the blending method has been closely followed in every chapter, with the result that by the time the student has completed the last experiment, he has come into possession of a large number of important related facts which he is likely to remember and which he could not have obtained without considerable trouble in some other way.

The book is divided into two sections, the first being devoted to the consideration of experiments relating to the aliphatic compounds, and the second, to the aromatic compounds. Only the more important compounds under either division are discussed, the application of general reactions and the general relations between the different groups of compounds receiving special attention. At intervals throughout the book review tables are given, the object being to enable the student to review at a glance the chemistry of a number of compounds. Emphasis is also laid upon the exact preparation of organic compounds, and to this end the directions for performing the experiments have been written very accurately, the student being told exactly what to do and how to do it. Equations are given to explain the experiments, and questions relating to the experiments and other questions which are supposed to give a certain amount of mental training are placed at the end of the chapters. As a combination textbook and laboratory manual this volume represents a blending of theory and practice that is rarely effected by the average teacher of chemistry.

TREATISE ON GENERAL AND INDUSTRIAL INORGANIC CHEMISTRY. By Dr. Ettore Molinari, professor of industrial chemistry at the Royal Milan Polytechnic and at the Luigi Bocconi Commercial University at Milan. 2nd edition. Translated from the 4th revised and amplified Italian edition by Thomas H Pope, B.Sc., F.I.C., A.C.G.I. 7x10 inches, 876 pages, 328 ill., and two phototype plates. Philadelphia. P. Blakiston's Son & Co.

In the number of chemical processes described, statistical information relating to the various chemical products, their uses, etc., this volume is sure to meet the needs not only of the manufacturing chemist, but every one who has anything to do with an industrial process dependent upon a knowledge of chemistry. The experiences of the World War gave a wonderful impetus to the study of chemistry in its relation to modern progress, so that the author has rendered a real service in placing this vast amount of material in a form that will prove helpful to the younger chemists who aspire to become a directing force in industry. This, the second English edition, is a translation from the fourth revised and amplified Italian edition, and while the book reflects processes and industrial practices obtaining in the various continental countries of Europe, the translator has introduced notes and comments which are explanatory of methods and industrial practices used elsewhere.

The book is logically divided into three parts, Part I being a section of an introductory and general character, designed to explain to students who have already gained some knowledge of chemistry in high schools and technical institutes, the principal fundamental laws of chemistry as they pertain to different industrial processes. Thus, in this section are found definitions of matter, space, substance, mass, etc.; an outline of the history of chemistry from the ancient Chinese to Lavoisier; laws of matter in the gaseous, liquid and solid state, etc., all of this information being given in the effort to link up in a general way the explanations of theory with the experiences of practice.

Part II is devoted to the non-metals which are arranged in groups, this portion of the work starting out with an introductory section relating to the classification of the elements. In Part III the general properties and characteristics of the metals are summarized, the metals, as in the case of the non-metals, being further subdivided into various groups into which those elements are collected which have the same valency and a progressive analogy, both in their physical and chemical properties, and in the composition and behavior of the compounds they form. This relation between the elements of the same group is further amplified at the end of the book by some considerations on the periodic law. Throughout the book the industrial application of chemistry is ever kept to the front, the chemical details and reactions of variant methods being described, with comments on the several steps used in the same, together with much information concerning the uses of the various chemicals commercially, prices, etc., the price units employed being given by the translator in English currency, per ton, where the substance in question is sold in large quantities, and in English currency per kilogram in the case of fine chemicals. Much statistical information is given throughout the book, the data thus provided showing the industrial importance of the various products to which they relate.

LABORATORY MANUAL OF ELEMENTARY COLLOID CHEMISTRY. By Emil Hatschek. 12 mo., 20 illustrations, 135 pages, cloth. Philadelphia, P. Blakiston's Son & Co.

This book is the result of the author's attempt to supply a laboratory manual for teaching colloid chemistry, many of the methods and materials of which are peculiar, and strange even to students well trained in inorganic and organic chemistry. To this end the book contains accurate and detailed directions for carrying out the fundamental operations, for making a number of representative preparations, and standard methods for their examination. These are based on the author's personal experience of the processes described and of the difficulties experienced in teaching them, the examples selected for illustration being usually the simplest, and where alternative processes are possible, those involving the smallest expenditure in apparatus and material have been selected. In short, the aim of this book, which is said to be the first of its kind, is to provide for the wants of those students of numerous branches of science who are finding some training in colloid chemistry an indispensable part of their equipment, and are able to devote a limited time only to acquiring its technique.

The scope of the book is indicated in the following chapter headings; General remarks on apparatus, materials and procedure; dialysis; suspensoid sols; suspensions; organosols; emulsoid sols and gels; egg albumin sol; emulsions; ultra-filtration; optical methods of examination; cataphoresis; electrolyte precipitation of suspensoid sols; mutual precipitation of suspensoid sols; protection; viscosity measurements; adsorption (qualitative experiments); capillary analysis; determination of an adsorption isotherm; the Liesegang phenomenon. For the guidance of readers desirous of going beyond the limits of the study provided in this manual, a number of references to recent literature are given at the end of each section. All statements made by the author are clearly and logically expressed, and it is certain that any student who makes an honest effort to master the principles thus set forth, is sure to have a good working knowledge of this interesting and important branch of chemistry.

A MANUAL OF CHEMISTRY, theoretical and practical, inorganic and organic; adapted to the requirements of students of medicine. By Arthur P. Luff, M.D., B.Sc.Lond., F.R.C.P., F.I.C., etc., and Hugh C. H. Candy, B.A., B.Sc.Lond., F.I.C., etc. With illustrations. Sixth edition, enlarged. 4½x6½ inches, 745 pages, cloth. Chicago, Chicago Medical Book Co.

This book in previous editions has been a standard text for the use of students in medical colleges of the British Empire and the United States, and the fact that it has been prepared more particularly to meet the need of the future practitioner by bringing together those portions of medical science bearing more or less directly on the study and practice of medicine, covers very fully the fundamentals of chemistry which must be understood by the pharmacy student. In this edition, the individual substances the student is required to know, have been used so far as possible to illustrate the general methods of which they form particular examples, while prominence has been given to synthetic reactions of general application, and to analytic reactions also, when these lay bare the anatomy of the molecule.

The subject matter is presented in the following order; Part I, Introduction to the study of chemistry, in which are considered the forms and changes of matter, symbolic chemistry, molecules, compounds, chemical reactions, and the periodic classification of the elements; Part II, Inorganic chemistry, covering the non-metallic elements, their preparation, properties, compounds, etc.; Part III, Inorganic chemistry, the metallic elements, their classification, individual characteristics, salts, tests, etc.; Part IV, Organic chemistry, starting out with an explanation of general principles, and following with an outline of the methods of the determination of certain elements in organic bodies as the ultimate analysis of organic compounds, their classification, etc.; and the chemistry of the various groups of compounds represented in this classification; Part V, Chemical problems, a section in which are presented a few typical problems, of a character the student may be called upon to solve in an examination, and Part VI, which is devoted to practical chemistry, such as the preparation of salts, qualitative and quantitative analysis and the various subdivisions of such work. As a logical and progressive presentation of the theories and facts needed by the student who would acquire a practical working knowledge of modern chemistry, this book is sure to meet all demands that may be made upon it.

AMERICAN CONFERENCE OF PHARMACEUTICAL FACULTIES. Proceedings of the twentieth annual meeting, 1919. 8 vo., 125 pages. New York.

This volume contains an account of the proceedings of the American Conference of Pharmaceutical Faculties at the meeting held last year in the Hotel Pennsylvania, New York. Besides the address of the retiring president, Charles B. Jordan, of Purdue University, there appear the report of the secretary-treasurer, and the reports of the committees on pharmaceutical syllabus, higher educational requirements, faculties, research, curriculum and teaching methods, together with reports of the various sub-committees on teaching such subjects as pharmacy and dispensing, physiology and pharmacology, botany and pharmacognosy, commercial and legal pharmacy, bacteriology and immunology, etc., all of which are followed by an outline of the discussions which took place, and which show that even experienced educators are wide awake for the most promising methods of imparting instruction.

As showing the per cent of college graduates among the registrants in pharmacy in the United States from April 1, 1918 to April 1, 1919, President Jordan gives the following figures; Total number registered, 2282; number of graduates reported, 967; per cent of college graduates, 42. Eliminating those states that kept no record of college graduates, the total number of registrants is 2041, and the total number of graduates 967, or 47.3 per cent. Eliminating New York and Pennsylvania where prerequisite laws have obtained for a number of years, the total number of registrants is 1814, the number of graduates 499, or 27.5 per cent. Eliminating other states which have prerequisite laws, about 74 per cent of all registrants are not college graduates, a condition which militates against the general recognition of pharmacy as a profession. In the requirements to enter pharmacy, North Dakota, Illinois and Ohio are in the lead, these states requiring high school graduation of the applicant who desires to study pharmacy.

Professional & Trade Associations

ARMY AND NAVY PHARMACISTS

Prof. Cook Reports Progress of Proposed Legislation and Outlines Features of Wadsworth Bill

Prof. E. Fullerton Cook, secretary of the National Pharmaceutical Service Association, who attended the recent meeting of the American Pharmaceutical Association in Washington, has prepared the following statement in which he says that throughout the meeting the subject of army and navy pharmacists received much favorable attention. At the meeting the Navy was represented by Lieutenant P. F. Dickens, who is assistant to Admiral Braisted, the Surgeon General, and was his personal appointment.

Dr. Ireland, Surgeon-General of the Army, detailed Major A. P. Clark of his staff to tell the Association something of the plans which the Army are perfecting for commissioned pharmacists. The special committee on the Status of Pharmacists in the Government Service, consisting of Messrs. Beringer, Mayo, Eberle, and accompanied by the Secretary of the Council, Jos. W. England and by Leonard A. Seltzer, called on Surgeon-General Ireland and Surgeon-General Braisted, and discussed the entire situation. It was also possible for this Committee to meet Admiral Washington, Chief of the Bureau of Navigation, and subsequently to have an interview with Secretary Daniels of the Navy.

Several days later, members of the Executive Committee of the N. A. R. D. including Samuel C. Henry, Charles H. Huhn and Theo. C. Hagenow, also called upon the Surgeon-Generals, and General Ireland and Admiral Braisted carefully reviewed the situation. The feeling expressed by everyone who has learned of the latest developments is one of gratification and approval.

In the Army, the plan proposed by General Ireland for the establishment of a Medical Administrative Corps has passed both the Senate and the House, as a part of the Wadsworth Reorganization Army Bill and is now in conference in joint committee. It is interesting to know that with the many criticisms of the Wadsworth Bill, this feature has never been questioned and as the General Staff of the Army have also given their approval of the establishment of this Corps, it is reasonable to expect that when the Wadsworth Bill is finally passed, the Medical Administrative Corps will become a part of the Army. Dr. Ireland has asked that pharmacists of military experience and of the highest technical training be selected for his assistance in the organization of the Pharmaceutical Section of this Corps. This officer, or possibly two officers, representing the several phases of pharmacy, would possibly be commissioned as a major in the Reserve Corps and then placed on active duty for the time necessary for organization.

Some additional details about the pharmacist's place in the new army will be of interest to every pharmacist. It will be in the reserve corps in peace time that pharmacy will have the greatest opportunity and the most attractive service. Here graduates of pharmacy who meet the other necessary requirements, including proper recommendation, and who have been approved by the proper officer in the Surgeon General's office, will be recommended for commissions as second lieutenants in the Reserve Corps, even though they have no military experience. It is understood that there will be about 1400 of these commissions available. The Medical Corps has secured for its training school, the old Indian school grounds at Carlisle, Pa., where training will be given in all sections of the corps, including the pharmaceutical division. Men who have been commissioned as second lieutenants, or with possibly a higher rating, due to experience in the World War, will be asked to take six weeks of training during the four years of enlistment. This training may be taken at one time or divided, and the school will be open throughout the year. As soon as an officer notifies the department that he is ready to take the training, he will be placed on active duty and his pay start before leaving home. The pay of a second lieutenant is about $1,700 per year.

In the Navy, the passage of the Darrow Bill is yet uncertain, but Secretary Daniels has agreed to assist in securing permanent commissions for the 79 lieutenants of the Hospital Corps who were commissioned during the war, and Admiral Washington promised the committees that he would not oppose such action. Secretary Daniels recommended that the Darrow Bill or similar legislation be introduced in the next Congress, if it is not passed at this time.

CHICAGO BRANCH

Discussion on the Newcomb plan for increasing the membership of the A.Ph.A. and N.A.R.D. constituted the principal feature of the 110th regular meeting of the Chicago branch of the American Pharmaceutical Association held at the Hotel LaSalle, on the evening of April 23. The Membership Committee reported twenty-three new members and stated that as many more were expected to become members before the annual meeting of the parent organization. A donation of $115.29 from the Entertainment Committee of the A.Ph.A. for the expenses of the branch was received with thanks.

The report of the Committee on the Newcomb plan was on motion endorsed by the branch and referred to the Executive Committee of the associations concerned for consideration. As the financial liability to be assumed by the associations might deter or prohibit the adoption of the plan, it was suggested that an advertising company or agency might be invited to serve as the advertising bureau in co-operation with the Central Committee and to underwrite financially the whole plan. In the discussion which followed. Secretary Day stated that the raising of the money to put the plan in operation appeared to be the nub of the whole matter, and questioned whether the A.Ph.A. would be in a position to appropriate $15,000 for the purpose.

Dr. Fantus suggested that in order to hold such an increased membership, great changes in the journal would be required to make it of a more popular character. He suggested that the association should publish a journal to care for the highly technical scientific papers, and that only those papers of a popular character be published in the regular journal.

Professor Wisuer stated he believed that a large and sudden increase in membership such as that suggested might be considered an unhealthy growth, and that in the long run the association would be better off to depend upon a normal healthy growth, aiming especially to bring in the young men and women from the colleges of pharmacy.

William Gray raised the question of how much the Association wanted to grow? Shall we be content to restrict our membership to those largely, or exclusively interested in purely scientific pharmacy, or shall we aim to popularize the association and seek the mass of American druggists?

H. N. Bruun said, "Let us make sure of what we have to offer the retail pharmacist and whether our offering really appeals to him or satisfies his needs." Mrs. H. E. Carpenter of Valparaiso, Ind., said that the association should strike while the iron is hot; that now is the favorable time to get after an increased membership, and to make the public realize that pharmacy is an essential and indispensable profession.

Sidney Schmidt called upon the Association to impress officials and the general public with the real value to the public of highly trained professional pharmacists. He pointed out that the N.A.R.D., with its steadily enlarging membership, was able to exert a powerful influence in legislative matters.

Secretary Gathercoal offered the following resolution which was approved by the Branch without dissent:

Whereas, the Executive Committee of the Council in session at St. Louis, January 31, recommended to the Council that the annual dues be increased from $5.00 to $7.00, and

Whereas, it is the sense of this meeting of the Chicago Branch, in regular monthly session, that such general increase would be detrimental to the best interests of the Association, therefore,

Be it resolved that we recommend to the Council that no increase be made in the general dues but that the giving of the Year Book annually to each member be discontinued; that the Year Book be offered for sale to the members of the Association at $2.50 per volume which is at a discount of $1.50 upon the regular price of $4. now established to non-members, and that our Council representative be requested to present this recommendation to the Council in its sessions at Washington, or that the dues remain at $5 without the Year Book and be increased to $7.50 with the Year Book.

In the discussion of this resolution Professor Day said he realized that no member personally wishes an increase of the dues, but the fact remains that "we need the money" to keep the association from running behind. He agreed such an increase might almost defeat itself at first by the loss of members that might ensue, and that the suggestion contained in the resolution for limiting the distribution of the Year Book to those who were willing to pay an additional $2.50 might be just as satisfactory to the association from a financial standpoint. Other members spoke in favor of the resolution and the general expression of opinion seemed to be that this proposition is the most feasible one to solve the financial problems of the association.

The meeting held on the evening of May 28 was largely attended, the program being devoted to the reports of delegates and others who attended the annual meeting of the parent association and the U.S.P. Convention, both of which were held in Washington. Prof. W. B Day in reporting on the general activities of the A.Ph.A. meeting, called attention to the principal items of business, the considerable number of excellent papers and addresses, and the very pleasant entertainments features of the meeting.

S. C. Henry gave his impressions of the Pharmacopoeial Convention, calling particular attention to the fact that though retail druggists were well represented at the convention, very few were elected to the revision committee. He deplored this and believed that if actual retail pharmacy was more fully represented on this committee, there would be a tendency to make the Pharmacopoeia more applicable to the drug store.

F. W. Meissner, of LaPorte, Ind., formerly a trustee of the Pharmacopoeial Convention, spoke briefly on the splendid financial standing of the Convention and the fine opportunity the balance of about $40,000 gives to the incoming Revision Committee for research.

Prof. C. M Snow spoke upon several phases of the A.Ph.A.'s activities, and emphasized the excellent addresses of Prohibition Officers Kramer and Gaylord. He thought the House of Delegates should be strengthened in its personnel and in its activities.

Secretary Gathercoal, referring to the fact that this was the last meeting of the Spring session, said that plans were already being made for a big meeting in October at which the 135 soldier and sailor members, resident in Chicago, would be given particular entertainment, and he asked for expressions of opinion as to the most desirable form this entertainment should take. Several members present, including some soldier and sailor pharmacists, thought that no feature of the war should be included, but that the program should be strictly pharmaceutical in its character. It was then decided to call upon pharmacists of foresight to present their views of the immediate future of American pharmacy to these young men at the October meeting

WOULD ELIMINATE SALE OF NARCOTICS

The Maine Pharmaceutical Association held a special meeting at Augusta recently to consider the elimination of the sale of narcotic drugs by pharmacists because of the feeling that the restrictions surrounding such sales imposed too great a burden of expense and clerical routine to make it profitable for druggist to handle such drugs. As a result of the discussions, the following resolutions were adopted:

Whereas the pharmacists of Maine as elsewhere realize the necessity of legislation regulating and restricting the use and sale of narcotic drugs, and

Whereas, it is our belief that the Harrison anti-narcotic law as enacted was amply sufficient for the purpose, and

Whereas, later and frequent rulings have imposed a burden of expense upon pharmacists often greater than the aggregate sale of narcotics, many times the amount of profit possible to derive furthermore keeping us in constant jeopardy of unintentional violation,

Be it Resolved: That the Maine Pharmaceutical Association in special session assembled, realizing the duty we owe to the public and to the medical profession, and recognizing the value of the narcotic law as passed but feeling that present methods of enforcement are not in harmony with the original intent of law, and as many druggists, both wholesale and retail, have already eliminated narcotics including exempted preparations.

Be it Resolved: That wherever possible, this method be adopted by others, and continued indefinitely or until difficult and objectionable rulings be rescinded.

During the meeting the members were addressed by Deputy Harris Day, of the Internal Revenue office, who explained the regulations relating to distilled spirits for non-beverage purposes, and by Inspector George W. Traynor, who spoke on the Harrison narcotic law and its provisions Nine new members were elected, and the Committee on arrangements reported that the annual meeting would be held at Prout's Neck on Sept. 1, 2, and 3.

METRIC SYSTEM URGED FOR UNITED STATES

San Francisco, June 15.—The World Metric Standardization Conference met here recently representing many national organizations. Among the hundreds of associations attending were the American Association for the Advancement of Science, the National Wholesale Grocers' Association, the American Institute of Chemical Engineers, the American Chemical Society, the American Institute of Architects, the American Metric Association and the World Trade Club of San Francisco

Strong resolutions were adopted urging the adoption of the metric units of weight and measure as exclusive legal standards by the United States and the British commonwealths. The resolution provided that a reasonable transition period be allowed and that no manufacturer, owner of tools or other citizen be handicapped by the introduction of the metric system.

Strong statements in support of the adoption of the metric units were sent by Thomas A. Edison, Luther Burbank, Henry Ford, Samuel Gompers and Franklin K. Lane.

N. J. Ph. A.'s GOLDEN JUBILEE

The annual meeting of the New Jersey Pharmaceutical Association, held at Newark on June 7 to 11, marked the 50th anniversary of that organization, and the program was interspersed with many entertainment features in celebration of the event. The retiring president, Edward A. Sayre, occupied an important position with relation to the success of the meeting, as he was one of the five living charter members of the association, four of whom were present at the meeting. The sessions were well attended and delegates from many nearby pharmaceutical organizations and colleges were present to extend their congratulations.

Secretary Hostmann reported the accession of 93 new members since the last annual meeting, the membership roll now containing the names of 1,046 active, 52 associate, 24 honorary and 45 life members. Treasurer E. R. Sparks reported a balance on hand of $3,567.40.

Papers were presented as follows: P. H. Hommell, "Suggestions for the U. S. P. and N. F."; H. V. Arny, "As It Was in 1870"; R. G. Eccles, "The Use of Drugs in Disease"; George M. Beringer, Jr., "Modified Formula for Aromatic Elixir"; Wm. F. McGrath, "Sick Room Supply Department"; Wm. R. Richardt, "The Hospital Drug Room"; Philip Forman, "Automatic Filtering and Mixing Apparatus"; R. H. French, "Alcohol, Ethyl and Methyl, Source, Manufacturing and Uses"; George M. Beringer, "Oil of Pennyroyal"; Adolph F. Marquier, "Some U. S. P. and N. F. Suggestions"; Otto Raubenheimer, "Pharmaceutical Events of Fifty Years Ago"; Jerry McQuade, "Political Expediency"; G. I. Schreiber, "System for the Drug Store."

The following officers were elected: President, Harry W. Crooks, Newark; 1st vice president, E. T. N. Stein, Montclair; 2nd vice president, Alexander Seidler, Newark; secretary, Jeannot Hostmann, Hoboken; treasurer, Edward W. Sparks, Burlington; board of trustees, Frank H. Eckert, West Hoboken, C. W. Holzhauer, Newark, C. J. McCloskey, Jersey City, William H. McNeill, Paterson, and E. T. Stein, Montclair; local secretary, Daniel H. Hills, Spring Lake. The next annual meeting will be held in June, 1921, at the Essex-Sussex Hotel, Spring Lake.

Following the meeting a banquet under the auspices of the Traveling Men's Auxiliary was given in Stetter's Auditorium, about 250 guests being present. W. O. Kuehler officiated as toastmaster. The principal address was made by Judge Carey of Jersey City.

DELAWARE

The Delaware Pharmaceutical Society held its 33rd annual meeting at the Hotel duPont, Wilmington, on June 3, and elected the following officers; President, George W. Rhodes, Newark; vice-presidents, James T. Challenger, New Castle, for New Castle county; James W. Wise, Dover, for Kent county, and William H. Chambers, Lewes, for Sussex county; secretary, B. H. Newsome, Wilmington, and Frank P. Gafone, treasurer. Board of Directors, John O Bosley, Wilmington, George W. Rhodes, Newark, W. R. Keyes, Clayton, Jos. Carrow, Odessa, and Erdman Hoffman, Wilmington.

During the meeting N. B. Danforth, of Wilmington, made an address on the Klair law and its effect on the drug business. An entertainment and luncheon followed.

ISSUES WARNING TO DRUGGISTS

All Pharmacists Who Deal in Narcotics Must Re-register Before July 1—Officers Elected by Kings County Pharmaceutical Society

At the annual meeting of the Kings County Pharmaceutical, Society held June 9, at the Brooklyn (N. Y.) College of Pharmacy Dr. William C. Anderson, chairman of the Drug Trade Conference, warned the druggists that every pharmacist who deals in narcotics, either as a wholesaler, a retailer, or as exempted narcotic dealer, must re-register by July 1, or be subject to severe penalty for failure to comply with the law.

Much of the session was devoted to a discussion of laws regulating the sale of liquor and narcotics .and the druggists were advised not to use old blanks or inventory sheets they may have on hand but to wait for the new sheets shortly to be issued by the Narcotic Department. These, it was stated, will be issued shortly, with the correct registry number printed where necessary and some of the data already filled in. This, it was explained, will simplify these forms and save the time of the druggists.

Under date of February 16th and April 22nd the following modifying agents, in addition to tartar emetic, were allowed by the Government to medicate bay rum, hair tonics, and toilet waters:

Quinine, salt or alkaloid, 2 grains per fluid ounce.

Cinchonidine, salt or alkaloid, 2 grains per fluid ounce.

Salicylic acid, 5 grains per fluid ounce.

Resorcin, 5 grains per fluid ounce.

Sodium salicylate, 5 grains per fluid ounce.

Attention was called to the following paragraph which is part of the regulations giving druggists permission to use these modifiers: "It must be understood that the use of any of these modifying agents will not of themselves render a solution of alcohol and water unfit for use for beverage purposes. Their addition must be made to a preparation which, of itself, is of a bona fide character."

It is estimated that 50 per cent of the druggists, roughly estimated, failed to file all necessary Government reports for the sale of alcohol and liquors and it is feared this will result in the revoking of non-beverage permits and retail liquor dealers' licenses.

Election of officers to serve for the ensuing year resulted as follows:

President, George R. Christ; first vice president, Joseph J. Vetter; second vice president, William E. Fanning; secretary, Charles E. Heimerzheim; treasurer, Adrian Paradis; trustees, 1920 to 1926, Charles A. Kunkle and Charles F. Pfister; censors, Ignatz Shuloff, J. L. House and Charles V. Lewis. Librarian, Charles F. Keale; counsel, Melville J. France.

Delegates elected to the American Pharmaceutical Association's convention were: William C. Anderson, Henry B. Smith and Jacob H. Rehfuss.

Delegates to New York State convention: George R. Christ, Henry B. Smith, Charles V. Lewis, Adrian Paradis and Joseph L. Meyer.

Delegates to New Jersey State convention: Frederic P. Tuthill, Charles E. Heimerzheim and William H. Bussenschutt.

PHARMACISTS NAME OFFICERS

Salt Lake, June 15.—Charles E. Driver of Ogden was chosen president of the Utah Pharmaceutical association, succeeding Frank J. Folland, at the closing session of the twentieth annual convention held recently in the Hotel Utah. Harry Coombs of Salt Lake was chosen first vice-president and Edward Johnston of Mount Pleasant second vice-president. George A. Huscher of Murray was re-elected treasurer. E. C. Smith of Salt Lake was chosen secretary, succeeding E. L. Ward of Salt Lake.

A resolution was unanimously passed favoring the adoption of the metric system. John Culley of Ogden said that half of the questions asked by the state board of pharmacy in examinations would in the future be in metric system terms. Another resolution adopted favored the increase in salaries of postal employees.

"What constitutes a beverage?" formed the subject for a talk by Herman Harms, state chemist, at the afternoon meeting. Mr. Harms defined a beverage, in the eyes of the prohibition law, as "any preparation which was said to be official in nationally recognized publications, or any other non-official preparation, such as flavoring extracts, sold at drug stores, which contain more than one-half of 1 per cent of alcohol, or which is sold in large quantities, even as high as pints or quarts, for uses other than medicinal purposes." He stated pharmacists, as well as physicians, were responsible for enforcing this law.

GEORGIA

The Georgia Pharmaceutical Association elected the following officers for the ensuing year at the close of its annual convention held in Macon: David G. Wise, of Atlanta, president; R. E. Perry, of Sylvania, vice president; Jabe Stamps, of Thomasville, vice president; Herbert C. Shuptrine, of Savannah, vice president; T. A. Cheatham, of Macon, secretary; Thomas C. Marshall, of Atlanta, treasurer.

Five members were nominated for appointment by the governor as members of the State Board of Pharmacy. They are R. E. Perry, of Sylvania, H. R. Palmer, of Athens, E. L. Murray, of Americus, J. T. Selman, of Atlanta, and Jack Bush, of Barnesville.

Atlanta was chosen as the meeting place for the next annual convention in 1921, invitation being extended by the city through Thomas C. Marshall.

REVISED INTERNAL REVENUE REGULATIONS

Under date of June 15, the Bureau of Internal Revenue has issued a revised edition of Regulations 51 relating to excise taxes on toilet and medicinal articles under Section 907 of the Revenue Act of 1918. Many important changes have been made in the regulations. Attention is invited to the following which are of particular interest to dealers in the articles taxed under this section:

1. The following paragraphs have been added to Article 5:

> Where a dealer sells toilet waters, hair tonics, or other preparations, taxable under section 907 to a barber for use or sale to patrons, the barber is the consumer within the meaning of the act, and the dealer must affix the necessary proprietary stamps and collect the tax from the purchaser. As to all unstamped articles purchased under certificate, on hand at the time of the promulgation of these regulations, the barber must affix the proper stamp and collect and return the tax when such articles are sold to a customer.
>
> A dealer, druggist, or person who breaks an original package of a taxable article (1) to use the article or any part thereof in compounding medicines, whether or not on the prescription of a physician, or (2) to dispense any part of the article less than the whole at his soda fountain or place of business, is the consumer within the meaning of the act, and must affix the proper stamps to the original package or container on the basis of the cost to himself, and must himself pay the tax.
>
> When a dealer, druggist, or person breaks an original package of a taxable article, and sells any part thereof in a separate package or container, as distinguished from dispensing it at his place of business, the purchaser is the consumer and must pay the tax, and the vendor must affix the proper stamps.
>
> When a dealer, druggist, or person sells a taxable article on a physician's prescription, whether in the original container or not, the purchaser is the consumer, and the vendor must affix the proper stamps to the container or package in which the article is sold.
>
> Taxable articles given away as free samples are not subject to tax if a notation is made on the package that the article is not to be sold for consumption or use, but is a free sample.

2. Article 7 has been rewritten in such a manner that the tax imposed by section 907 of the act must be computed upon each article sold. Heretofore when one person bought two or more articles at one time, the tax might be computed on the sale as a whole, but a reconsideration of the law showed that this practice was erroneous, and that the tax must be paid upon each article separately.

3. Article 8 formerly held that this tax applied to sales made to the Government, but in the Revised Edition is amended so as to hold that this tax does not attach to articles sold to the United States Government. (This tax is a consumer's tax. But the manufacturer's excise tax under section 900 applies to sales made to the Government, because that tax is not required to be collected from the consumer.)

4. In article 9 attention is called to the fact that bay rum, witchhazel, and shampoo oils and liquids are taxable as toilet preparations; that all toilet soaps, whether medicated or not, are taxable under section 900, when sold by the manufacturer, and not under section 907.

5. The following clause is added to Article 14:

> If an article is advertised under a coined word, the exclusive use of which is claimed by one manufacturer or dealer, such coined word may or may not be a trade-mark, but it indicates the distinctive origin of the article and renders the sale thereof taxable, whether it is applied to one or more articles sold by such manufacturer or dealer.

6. The two following paragraphs have been added to Article 16:

> (e) Cough drops sold in packages or cartons having the words "cough drops," "cold tablets," "throat lozenges," "throat pastilles," "troches" thereon, or otherwise held out as a remedy or specific, are taxable under section 907. Cough drops sold in bulk and held out or recommended as a remedy or specific are taxable. Candy cough drops, such as lemon, lime, and horehound drops, sold in bulk by the pound or otherwise, and not held out or recommended **in any manner** as a remedy or specific, are not taxable under section 907, but are taxable as candy under section 900, when sold by the manufacturer, producer, or importer.
>
> (f) A preparation, otherwise taxable, is not exempt from tax when it is sold on a physician's prescription, nor when sold in a container upon which the original label does not appear.

7. Paragraph (b) of Article 17 has been rewritten so as to bring out the fact that products whose primary or principal use is a food, as distinguished from medicinal preparations used as a remedy or specific, are not taxable even though held out as having incidental remedial properties, unless they contain a recognized drug and are held out as proprietary medicinal preparations, or as remedies, or as specifics.

8. A clause has been added to paragraph (d) of Article 17 to the effect that serums, vaccines, antitoxins and salvarsan, when prepared by open formulae and advertised only to the medical profession, with labels which indicate use only by the medical profession, are exempt from tax.

9. Paragraph (e) of Article 17 has been rewritten so as to bring out the point that waters, whether medicated or not, produced and sold primarily for use as beverages, although they are held out as having incidental remedial qualities, are taxable as beverages under section 628, and not as medicinal preparations under section 907.

10. Article 24 and 25 have been rewritten in such a manner as to bring out clearly the fact that the tax imposed by section 907 does not apply to sales made for export; and also, that when articles covered by this section are imported, they are taxable when sold to the consumer in the United States, the same as if they had been manufactured in the United States.

Schools and Colleges

N.Y.C.P.'S UNIVERSITY COMMENCEMENT

At the 166th annual commencement of Columbia University held on June 2, degrees were conferred upon 2,632 students who had completed the courses of the various institutions affiliated with the university, including the New York College of Pharmacy. The graduates of the senior university class receiving the degree of B.S. in Pharmacy were Moritz Adolph Dittmar, of Jersey City, N. J., and Miss Elizabeth Kish, of Trenton, N. J. The degree of Pharmaceutical Chemist (University Course) was conferred on the following; Solomon Bernstein, New York City; Gerschen Cohen, Paterson, N. J.; Samuel Cohen, New York City; Emanuel Eigenmacht, New York City; Louis Ensler, New York City; Max Hertz, Norwich, Conn.; Charles Josephson, New York City; Herbert Carl Kassner, Jamaica, N. Y.; William J. Macsata, Torrington, Con.; Helen Gould McKean, New Rochelle, N. Y.; Joseph Montesano, Paterson, N. J.; Samuel Rosenblum, New York City; Eugene M. Searle, Franklinville, N. Y.; Daniel Shaw, New York City, and Edward Staloff, New York City.

Prizes for meritorious work by pharmacy graduates in the university course were awarded as follows: Max J. Breitenbach Prize, $200, for the highest proficiency in the junior university class, to Herbert Carl Kassner; Kappa Psi Fraternity Prize, a gold medal for the highest standing maintained throughout the entire pharmaceutical chemist course, to Gerschen Cohen; the George J. Seabury Scholarship, providing tuition for the senior (fourth) year of the University course, leading to the degree of B.S. in Pharmacy, to the student who has maintained the highest standing during three years, to Louis Ensler; and the Isaac Plaut Fellowship, which provides a year of study at a foreign school or university by that Bachelor of Science in Pharmacy of the college who has shown during his full course of study the greatest taste and aptitude for original investigation, to Moritz A. Dittmar.

The commencement day exercises were held in the gymnasium, Broadway and 119th street, and all the candidates for degrees were presented to President Butler by the deans of the various schools.

RHODE ISLAND COMMENCEMENT

Thirty students of the Rhode Island College of Pharmacy and Allied Sciences received the degree of Graduate in Pharmacy at the closing exercises held in the Rhode Island College of Education Assembly Hall on June 3. Albert W. Claflin, Phar.D, '03; Irving T. French, Ph.G., '05 and Miles A. Guild, Ph.G., '18 were in charge of the programme.

The graduates were: Francis Duffy, Rankin McCord, James T. Deery, Florence M. Dolan. Edward L. Scanlon, James J. Gill, Frederick G. Reynolds, Howell J. Smith, Lawrence J. Hand, John H. Leighton, Primo G. Lacobucci, John M. Mooridian, Cammille S. Henault, Alfred J. Coelho, Salvatore A. Bilotti, Edward F. St. Germain, Rudolph H. Pellerin, George Pastille, Alfred J. Bassard, Wilfred J. Chatigny, Rheinhold Jeschke, Luigi Vellella, Herman Markensohn, Joseph Nappi, E. Caesar Romano, A. Robert Ferranty, Maurice Genter, Philip Catanzaro, Maurice J. Savard and Ettore C. Picerne.

Prizes were awarded as follows:

The William O. Blanding prize of $25, highest average, senior work, to A. Robert Ferranty; Louis K. Liggett prize of $25, highest standing operative pharmacy junior year, to Alfred J. Coelho; Brewer & Company prize of $25, highest general average in operative pharmacy, to Mrs. Elizabeth Allsop; the Heberlin prize of $25, highest general average in toxicology, to Edward F. St. Germain; the George L. Claflin scholarship to Mrs. Rose Markensohn; the O'Hare scholarship to Walter Boren; the Faculty scholarship to Thomas Simpson; the Albert Fenner cup to remain with the class of 1912.

A dinner was served in honor of the graduates in the Crown hotel following the exercises.

BROOKLYN

Thomas J. France, chairman of the Committee of Supervision of the Brooklyn C. P., presented a report at the annual meeting of the Kings County Pharmaceutical Society held in June, in which he congratulated the society upon the successful and satisfactory record the college had made during the past year. That it ranked high as an educational institution was shown by its financial condition and its graduates of qualified students. After payment of every expense, the college was able to assist every employe by the payment of a bonus to meet the high cost of living.

At the final examination for promotion to the Senior class, 148 out of 162 Juniors qualified, while 120 out of 147 Seniors passed the final examination and were graduated at the recent commencement with the degree of Ph.G. Mr. France called attention to the fact that under the law of New York State enacted in 1918, the regent counts necessary to matriculation in schools of pharmacy were increased from fifteen to thirty, and that in 1923, the required number of counts would be increased to sixty, an advance which would undoubtedly largely increase the number of matriculants for the classes of 1921-22 and 1922-23, and a probable reduction in the number of applicants for the 1923-24 class. In the opinion of the committee, the constantly increasing requirements which were formulated and imposed every year would soon make it impossible to comprehend the full course in two years as at present, and all colleges of pharmacy, including the B.P.C., will soon come to longer terms of instruction.

An increase in tuition fees of $30 per year has been made necessary, owing to the tremendous increase in the cost of supplies, etc., these now being as follows; Seniors, tuition fee, $135, graduation fee, $15, total $150; Juniors, matriculation, $5, tuition fee, $135, laboratory fee, $5, total, $145. With the redecoration of the ceilings and walls in the chemical and pharmacy laboratories and in the alumni room, the college will be ready for the opening session this fall.

MASSACHUSETTS C. P. COMMENCEMENT

On May 25, the 52d commencement of the Massachusetts College of Pharmacy, held in George Robert White Hall, of the college, Boston, attracted a large gathering of friends of the graduates and former students. President C. Herbert Packard presided and the exercises were opened by an orchestra selection and prayer, followed by an address by Rev Dr. H. Grant Person. Then came the valedictory by Leslie Burns Barrett and an orchestra selection. Dean Theodore J. Bradley presented the 60 candidates for degrees and Secretary Lyman W. Griffin read the roll. The degrees were then conferred by President Packard and Treasurer John G. Godding made the award of prizes.

These consisted of a nomination and the first year's dues in the American Pharmaceutical Association, the awards being made on the basis of the best records in senior subjects, the names of the winners being as follows;

Senior pharmacy, Mrs. Jennie E. Thompson; senior analytical chemistry, Miss Dorothy Markels; senior general chemistry, Leslie B. Barrett; senior organic chemistry, Demetrios C. Capetanakis; senior materia medica, Miss Susan R. Beetle.

The degree of pharmaceutical chemist was conferred on the following: William Pitt Briggs, Ph.G., Norwich, N. Y.; Frederick Lansing Carr Ph.G., Rensselaer, N. Y.; Stanley William Foilser Ph.G., Medford; Katherine Elizabeth O'Hearn Ph.G., Roxbury; Bertrand Morgan Pinkham Ph.G., Scituate; Alfred Franklin Tinkham Ph.G., Middleboro; Lloyd Rodney Wyman Ph.G., Waltham.

The degree of graduate in pharmacy was conferred on the following: Elmas Hovhannes Adamian, Somerville; Leslie Burns Everett, Winsted, Conn; Susan Russell Beetle, Edgartown; Demetrios Christou Capetanakis, Sparta, Greece; John Frederick Conley, Ipswich; Francis John Connors, Westerly, R. I.; Paul Lorenzo Crabtree, Island Falls, Me.; Priscilla Cutler, Provincetown; Ruth Gwendolyn Davies, Jamaica Plain; Edmund Coleman Dickson, Portland, Me.; Harold Benson Fenwick, Worcester; Michael Gannino, Lynn; Gerald Patrick Griffin, Debec Junction, N. B.; Walter Reynold Hillberg, Brockton; Samuel Abner Katz, Dorchester; Esther Eames Keogh, Cambridge; Laurence Webster Leonard, Randolph, Vt.; Dorothy Markels, Springfield; John Charles Meserlian, Boston; Elijah Louis Miller, Quincy; Beatrice Marie Mollica, Medford; Harold Raymond Munro, Worcester; Samuel Nannis, Lynn; Samuel Price, Worcester; Newcomb Richmond, Lynn; Charles Worden Sanford, Marlboro; Diana Steinberg, Boston; Charles Parker Swan, Everett; Louis Philip Tankel, Mattapan; Jennie Elizabeth Thompson, Boston; Arthur Christian Wagner, Easthampton; Kathryn Helena Zilg, Boston, and Anna Marguerite Marcotte, Winooski, Vt.

PHILADELPHIA

The 98th annual commencement exercises of the Philadelphia College of Pharmacy and Science began with the baccalaureate services held in the Church of St. Luke and the Epiphany on Sunday, May 30, the Rev. David M. Steele delivering the sermon. This was followed on May 31 by the annual meeting of the Alumni Association, which elected officers and listened to reports of the association's activities during the past year. In the evening the members of the graduating class were tendered a supper in the Museum of the college by the professors and trustees, at which Dean Charles H. LaWall presided. On the evening of June 1 the annual reunion and banquet of the Alumni Association was held at Mosbach's Casino, Dr. Robert P. Fischelis serving as toastmaster.

At the banquet President Howard B. French told of the two million dollar endowment and building campaign the college was about to undertake, and showed the architect's first drawings of the proposed college buildings on the Philadelphia Parkway. He also announced that the Park Commission was favorably inclined toward granting a site for the college, and that the plans which are now maturing will provide for a plant of six buildings for the various departments and ample facilities for research work. A memorial tablet in honor of the graduates and students who had been in service was unveiled, Dr. William Duffield Robinson, president-elect of the Alumni Association delivering the address, and Miss Ruth E. Cook, daughter of Prof. Cook, unveiling the tablet.

The commencement exercises were held in the American Academy of Music, the address to the graduates being made by Hon. John Wanamaker. The degree of Ph. M. *honoris causa* was conferred on Frederick B. Kilmer, D.Sc., and Francis E. Stewart, M.D., Phar. D. Louis Gershenfeld, B.Sc., received the Ph.M. degree in course. Of the graduates, 105 received the degree of Ph.G., while thirteen students who completed the course will not receive their diplomas until they have reached their majority, and twenty-one have completed the course and are eligible for the degree when other graduation requirements are completed. Other degrees were conferred as follows; Pharmaceutical Chemist; Acisclo Marxuach, John R. Randolph, Bertram C. Steves, and Charles R. Steward; Bachelor in Pharmacy, Luther A. Buehler, William E. Reighter; Doctor in Pharmacy, Miss Anna C. McNelis; Bachelor of Science in Pharmacy and Chemistry, George Slothower, Charles F. Slotter. Certificates of proficiency were awarded to a large number of special students.

The prize awards were as follows; William B. Webb memorial prize, a gold medal and certificate, Edwin Tyson Brown; Pharmacy prize, $25, Matthew Kramer; Chemistry prize, $25, Saturnino Vidaurreta; Materia medica prize, $25, Carmen A. Martinez; Analytical chemistry prize, $25, Joanna S. Reeves; Microscopical Research prize, a compound microscope, Miguel A. Tamayo; Pharmaceutical chemistry prize, $20, Matthew Kramer; Commercial pharmacy prize, $20, Matthew Kramer; Pharmacy research prize, $20, Leon W. Swavely; Joseph P. Remington memorial prize, $20, Wayne E. Byers; Mahlon N. Kline theoretical prize, a Troemner agate prescription balance, Charles H. Pitt; Maisch botany prize, Robert W. Shenk; J. B. Moore memorial prize, $25, Louis G. Freeman; Pharmacy review prize, A.Ph.A. membership, Charles H. Pitt; Bacteriology prize, $25, Matilde Martinez; Kappa Psi fraternity prize, a gold medal, Matthew Kramer; Advanced pharmacy prize, $10 worth of books, John R. Randolph.

The Alumni gold medal for highest general average in the senior year was awarded to Matthew Kramer, and the silver medal for the highest general average in the junior year to Anne Goldberg. Alumni prize certificates for highest average in various individual subjects were awarded to Charles H. Pitt, Wayne E. Byers, Matthew Kramer, Saturino Vidurreta, Joanna S. Reeves. Anne Goldberg received the alumni prize for making the highest grade of any member of the junior class in pharmaceutical arithmetic.

MARYLAND C. P. COMMENCEMENT

Sixteen graduates of the Department of Pharmacy, University of Maryland, received degrees at the commencement of the department and those of the other divisions of the school which were held jointly on June 1 at the Lyric Theatre, Baltimore. Governor Albert C. Ritchie presented the diplomas to the graduates, and there were other exercises of an impressive character, most of the class getting floral tributes in addition to their certificates.

The class included two members of a Catholic Sisterhood, Sister M. Joan of Arc and Sister M. Florence, both from Baltimore. The former proved such an excellent student that she received the gold medal for general excellence, having led the class throughout the year. Sebron W. Ferguson, of Florida, got the Simon prize for practical chemistry, established by the late Professor William Simon, Mr. Ferguson and Sister M. Florence, the other nun, also getting honorable mention.

The list of graduates included, besides, Tsu-Liang Ko, of China, and Miss Gretchen Maser Lusby, of Maryland. The other graduates were: William Stone Bridges, Louisiana; James Mitchell Chaney, Maryland; Hyman Davidov, West Virginia; Henry Eckhardt, Maryland, Russell Conkling Foster, Maine; John Burr Frost, Canada; Richard McClure Joeckel, Maryland; James Edgar Johnson, West Virginia; Frank A. Kaufmann, Maryland; William C. H. Keyser, Jr., Maryland; Albert C. Leatherman, of Maryland.

By the time the next session opens for the University important changes will have been made in the institution. The last General Assembly passed a law authorizing a consolidation of the University of Maryland with the

Maryland College of Agriculture, which is about to take effect, and this will without doubt be followed by a rearrangement of the various divisions of the institution, apart from strengthening the venerable old school, which long since passed the century mark and holds a high place in Maryland educational history, having made especially important contributions to the science of medicine and to law. The details of the changes have not yet been worked out, and some time is likely to elapse before they are announced, but without doubt when the sessions are resumed in the fall, a very extended readjustment will have taken place. In line with the changes was the enactment of the bill which provides that matriculates for the degree of pharmacy shall have had four years of high school or its equivalent, while candidates for registration as assistant pharmacist must have had two years of high school or its equivalent.

MEDICAL COLLEGE OF VIRGINIA

W. Goggin Crockett, who became professor of pharmacy in the school of pharmacy of the Medical College of Virginia on July 1, expects to renew old acquaintances at the meeting of the Virginia Ph.A. to be held at Natural Bridge July 13-15. Although a native of Tazewell, Va., he comes to his new appointment from Baylor University, Dallas, Texas, where he held the chair of pharmacy. He obtained his practical experience in pharmacy in the store of John E. Jackson, Tazewell, the retiring president of the Virginia Board of Pharmacy, and his academic training at Hampden-Sidney College, later receiving the degree of Doctor of Pharmacy from the New York College of Pharmacy, and the Master of Science degree from New York University.

The Senior Class has made two records this year; the first, one hundred per cent membership in the American Pharmaceutical Association, and the second, in having nearly one hundred per cent present at the Washington meeting. The list of graduates for 1920 are: F. J. Britton, B. E. Burnett, P. E. Darden, L. J. Farley, T. J. Ham, Jr., R. H. Hurt, G. W. Johnson, J. E. Litz, G W. Lyle, W. M. Mebane, L. R. Painter, Miss Hilda Saunders, R. M. Parker, D. V. Walker, R. J. Walker, S. Weinstein, J. W. Willcoxon, and E. B. Whitten.

LOUISVILLE

Degrees were conferred on thirty graduates and two post graduates by President Simon N. Jones at the forty-ninth annual commencement of the Louisville College of Pharmacy held on June 3. Honor medals were awarded by Dean O. C. Dilly to Robert E. VanBeber, of Middletown, Ky., who received the college medal for first honors, and Albert E. Ely, of Oakland, Md., who received the Voigt & Co. medal for second honors. The salutatory address was delivered by Raymond J. Poynter and the valedictory by David W. Jackson.

Junior class honors and the Peter-Neat-Richardson Co. medal were won by Bernard H. Boeckmann, of Louisville, second honors and the George H. Gould & Son medal going to Frank Sharp, also of Louisville. The address to the graduates was delivered by the Rev. Dr. Finley F. Gibson. Following are the names of the graduates:

William H. Allen, Byron B. Begley, Morgan Berry, Walter A. F. Boese, Oscar L. Dyer, Albert E. Ely, John S. Goings, Thomas G. Griffin, Clarence Hinkle, Claude F. Holland, David W. Jackson, Scott W. Johnson, Christ F. Kilgus, J. Albert Krieger, S. Kyle Morris, Carl A. Neff, Henry J. Neumayer, Jr., Charles J. Osterholt, Russell C. Paulson, Bernard S. Pearce, Raymond J. Poynter, Orville L. Sagabiel, Robert J. Seiberz, William Herbert Settle, Paul W. Shaw, Eugene E. Speer, Ida Steinberg, Robert B. VanBeber, William E. Weber, Raymond R. Youngblud, and post-graduates, Oscar Deming and Joseph C. Seitz.

At the annual meeting of the college the following officers were elected: President, Simon N. Jones; 1st vice-president, Robert J. Frick; 2nd vice-president, Horace E. Hurley; secretary, John J. Seiberz; treasurer, William Tafel. Four new members were added to the board of directors as follows: Edward H. Hinkebein, Albert Struby, H. Hulskamp, and Ben Sauter.

The Building Committee, composed of Thomas Taylor, Horace O. Hurley and William Tafel, was authorized to make contracts for remodeling the college building, which is to be ready for occupancy late in August. A fund for $25,000 has been provided for this purpose and $5,000 more is expected.

UNIVERSITY OF ILLINOIS

Commencement exercises of the colleges of medicine and dentistry and the school of pharmacy of the University of Illinois were held in the Studebaker theatre on June 12, the degrees being conferred on the graduates of each school by Acting President David Kinley. The program included an address by Dr. Kinley entitled "Some Questions in Medical Education."

Degrees were conferred as follows:

Pharmaceutical Chemist: Frederick E. Boehm.

Graduate in Pharmacy: Max Ahnert, W. Edwin Brown, Henry A. Buerkle, Marietta L. Carothers, Rollin L. Cate, Virgil G. Connolley, John B. Cooke, Ralph D. Davidson, Ira I. Eisenberg, Eric J. Erickson, Friedrich W. Grosse, Seward H. Guinter, Warren F. Harris, Edward C. Higgins, Clarence E. Holston, Allan Humphrey, Harlan L. Jenkins, Harry J. Jensen, Louis Kabel, Walter G. Koehler, Baxter E. Lightfoot, Stanley E. McBride, Elmer W. McLaughlin, Fayette O. Merrill, Stanley J. Novotny, Richard N. Oliver, Hans C. Pahl, Clyde M. Pate, Leon A. Rambo, Sidney Schmidt, Cyrenus L. Sickmon, William L. Sides, Ralph E. Terry, Ninetta A. Vella, Albert F. Vondrasek, Lewis W. Waxman, Ralph W Windmueller, Charles R. Wilson.

James H. Diggs, '19, Ralph E. Fraser, '19, Ira Goldman, '19, Nathan S. Kartman, '19, Lewis P. Brochoff, '18, Ethel M. Carlson, '18, Arno W. Fritschell, '18, Alfred R. Johnson, '18, Wilfred I. Menard, '18, Josephine M. Dyniewicz, '17, Beulah K. Chapman, '17, Paul H. Pohlman, '17, Harold C. Prutsman, '17, Rose S. Ruder, '17, Byron E. Clay, '15, Harry Kanta, '15, Arthur H. McKenty, '15, Everet A. Lewman, '13, Erner McGinley, '05, Robert C. Smith, '99.

Certificates: David R. Anderson, Carl G. Felger, Josephine C. Hauber, Jaroslav R. Madera.

At the 38th annual reception and banquet tendered by the Alumni Association to the graduates at the Hotel Sherman on June 10, the list of prize winners in the class of 1920 was announced as follows; Leo L. Mrazek prize, Clyde M. Pate; Andrew Scherer prize, Sidney Schmidt; Wm. Gray Membership A.Ph.A., Jaroslav Madera; A.Ph.A. Membership: Chemistry, Leon Rambo; Pharmacy, Walter Koehler; Materia Medica, Miss Marietta L. Carothers.

At the banquet Prof. W. B. Day served as toastmaster, and responses to toasts were made by the following; "The University," W. L. Abbott; "The Faculty," Prof. C. M. Snow; "The Alumni Association," John C. Wheatcroft; "Class of 1920," Baxter E. Lightfoot; "Class of 1895," Dr. R C. Drew.

Professors Day, Snow, Clark and Gathercoal attended the meeting of the Pharmacopoeial convention in Washington and the meetings of the American Pharmaceutical Association and American Conference of Pharmaceutical Faculties immediately preceding. Professors Clark and

Gathercoal were elected members of the Revision Committee of the U. S. Pharmacopoeia. Professor Snow is a member of the Committee of Revision of the National Formulary Dean Day was re-elected General Secretary of the American Pharmaceutical Association.

An alumni dinner held at the new Ebitt recently was attended by twelve alumni and ladies. Among them were Claude E. Anding, '03, president of the Mississippi Pharmaceutical Association; A. D Thorburn, '94; F. W. Nitardy, '07; Oscar Hallenberg, '94; C. M. Snow, '02; E. N. Gathercoal, '95; W. B. Day, '92; A. H. Clark, '05.

Miss Ethel Arnold, '06, for many years druggist at the Kankakee State Hospital, died at her home, Watseka, Ill., recently after an illness of several weeks. Miss Arnold was the daughter of T. S. Arnold, a well-known druggist of Watseka Aside from her father she is survived by two brothers, one of whom, Edwin, '03, is associated with his father in the drug business at Watseka.

IOWA UNIVERSITY

J. K. Freisinger, ex '19, has disposed of his drug business at Martelle, Iowa, to W. R. Jennings, '16, who has been employed at Red Oak, Iowa, since his discharge from the service. Mr. Jennings was recently a caller at the college.

The Phi Delta Chi fraternity recently initiated Chester R. Schlumberger, '21, of Denison, and Ray H. Breckinridge, '22, of Gilman, members of the order. On the evening of May 7th, the chapter gave a dinner dance at the country club, Mr. and Mrs. B. H. Davis, '08, serving as chaperones.

Dean W. J. Teeters attended the annual meeting of the American Pharmaceutical Association and the United States Pharmacopoeial Convention, both of which were held in Washington early last month. The Dean was chairman of the Committee of Higher Educational Standards of the American Conference of Pharmaceutical Faculties and is president of that organization for the present year.

Several members of the senior class have already accepted positions and will begin work soon after commencement in June. H. A. Watters will be with his father W. L. Watters, '97, West Liberty, and B. C. Rogers will also be employed there. C. C. Hazard and W. M Pinkerton will be with the Schlegel Drug Company, Davenport. M. P. Wilkinson will work for Wilkinson and Company, Keokuk; F. W. Weber, '17, who is to receive his Ph.C. degree, will be with the Puritan Manufacturing Company, Iowa City.

Mr. and Mrs. J. E. Kramer of Iowa City have announced the engagement of their daughter Mary to T. P. Beekman of Charles City, Iowa. Mr. Beekman graduated in 1917, spent several months overseas and on his return did relief work at Cedar Rapids until recently, when he accepted a position with the May Drug Company at Charles City. Miss Kramer will be graduated from the College of Liberal Arts in June and the wedding will take place in the early summer.

Clarence Wierks, '11, of the Schlegel Pharmacy, Davenport, who has been ill at the University Hospital for several months, is very much improved and recently went to his parents' home at Hospers, for an extended visit.

W. H. Geisler, ex '11, has sold his drug business at Davenport, to Wm. Lage and accepted a position with P. M. Sadler of the same city.

J. J. Beyers, '17, located at Estherville, Iowa, since graduation, has disposed of his interests there and accepted a position with Wixstead Drug Co., Cedar Rapids. R. A. McGoay, ex '14, is now located at Colfax, Iowa. W. S. Hemping, '19, located at Estherville since graduation, has accepted a position with the Hansen Drug Co., Davenport. R. S. Potter, ex '19, has accepted a position at Estherville. Ernest Simpson, '11, for several years in the employ of Hartz & Bahnsen, Rock Island, Ill., has been advanced to city salesman for that firm in the tri-cities.

P. J. Hanzlik, '02, '08, professor in the faculty of Western Reserve University, Cleveland, O., suffered the loss of his house and its contents in a fire which occurred in the latter city recently, the house catching fire from a neighboring building which it is supposed was set on fire as the climax of labor troubles. Mrs. Hanzlik will be remembered as Miss Bertha Shimek, daughter of Professor Bohumil Shimek, of the Department of Botany.

QUEEN CITY

The commencement exercises of the Queen City College of Pharmacy, were held in the banquet hall of the Hotel Gibson, Cincinnati, on the evening of June 3. Dr. J. Edwin Jay, president of Wilmington College, with which the Queen City College of Pharmacy is affiliated, conferred the degree of Graduate in Pharmacy on a class of 16, six of whom were young women. Addresses were made by Caswell A. Mayo, of the William S. Merrell Chemical Company, Dr. F. B. Cain, dean of the college, Dr. William H. Peters, commissioner of health of Cincinnati, Dr. C. J. Southaw, Dr. Keller and Dr. Sates of the faculty.

ONTARIO

The annual meeting of the Council of the Ontario College of Pharmacy was held in Toronto June 7-11 with C. T. Adams, president in the chair. Plans were considered for increasing the accommodation for students as about 200, mainly returned soldiers, are expected to enter pharmacy next fall and the lecture rooms will require to be considerably enlarged.

A resolution was adopted expressing appreciation of the action of the License Commissioners in disclosing the large number of liquor prescriptions dispensed by a few druggists, approving the determination of the Board to cut off the source of supply, and assuring them that the council was in sympathy with their attitude.

A reciprocal arrangement with the Pharmacy Board of New South Wales, Australia, was approved. Under this agreement a graduate of the College of Pharmacy of New South Wales, on payment of a registration fee of $60, will be allowed to practice his profession in Ontario, without an examination. The Committee on Education recommended that the arrangement with New South Wales should be the basis for similar agreements with the Pharmacy Boards of other parts of the British Empire.

Committees were appointed to arrange for the celebration of the 50th anniversary of the founding of the College which occurs next summer. The question of increasing the length of the term for pharmacy students from one year to two years was discussed at length and a resolution adopted favoring the change. The Educational Committee were instructed to visit other pharmacy colleges in Canada and the United States and endeavor to arrange for a general lengthening of the pharmacy course throughout the continent. The Committee was also instructed to report on a site for a new college building, if it were found that the present building is not large enough to accommodate the classes this fall.

President C. T. Adams, Sault Ste. Marie, and F. J. Hoag, Kingston, were appointed delegates to the Canadian Pharmaceutical Conference.

Educational Department

Devoted to Information, Criticisms and Suggestions on Pharmaceutical Topics of Special Interest to Era Course and Other Students.

Conducted by C. VERNE NICHOLS, Ph.C., B.A., M.S., Director of the Era Course in Pharmacy.

SOLUBILITY OF SATURATED SOLUTIONS

The question, "When two salts contain an ion which is the same in both, how are their solubilities usually affected if they are dissolved together?" is asked in Lecture 2 of Part IV. The greater number of students give the answer: "Their solubilities are decreased." This is the answer under certain conditions, but it is not explicit; the case of a saturated solution as well as the unsaturated condition must be considered.

As a general rule a solution saturated with a salt will not dissolve another salt containing an ion common to both. However, if the salt which is added to the saturated solution is more soluble in the solute than the dissolved salt, the added salt will dissolve, but at the same time, an equivalent amount, by weight, of the dissolved salt will be thrown out of solution. To state this more clearly, the example of a saturated solution of sodium chloride may be considered. This solution will dissolve no more of another sodium salt nor of a chloride, but if we pass into the solution hydrochloric acid gas, the gas, which is more soluble in water than sodium chloride, will dissolve, throwing out of solution a corresponding amount of the sodium chloride. Similarly, consider adding a solution of potassium carbonate to a saturated solution of potassium iodide in water. The solution is already saturated with potassium ions, but since potassium carbonate is more soluble in water than the potassium iodide, the potassium carbonate will dissolve, throwing out of solution an equivalent amount of potassium iodide. During the working out of these equilibriums, the solutions have remained saturated as regards the common ion; in the former case the chlorine ion; in the latter, the potassium ion.

THE STUDY OF PHARMACOGNOSY

Due to the fact that Pharmacognosy comprises a consideration of both physical and chemical characteristics of drugs, the average student of pharmacy encounters more or less difficulty in its study. The main points to be noted in the description of a drug are usually not easily retained unless the student gives a great deal of time and conscientious study to his assignment and reviews the different drugs from time to time. By emphasizing the histological phase the memory work may be eliminated to a considerable extent since in this the characteristics take on a more tangible form. He who intends to make the study of pharmacognosy his future vocation should have as a foundation a thorough knowledge of botany, physics, chemistry and crystallography, in addition to a real interest in the subject.

Description of Drugs

One of the questions in Part VII of the Era Course reads, 'What are the main points to be noted in the description of a drug?" Perhaps the most important points for the pharmacist to remember are: the Latin title, or as it is usually designated, the official title; the English title, which is a translation of the official title, and in many instances identical with the official title; and lastly, some of the principal synonyms. While other points of interest should be given due consideration, these three are perhaps of first importance.

Origin of Organic Drugs

Another thing which is to be studied in connection with the organic drugs is their origin, or their botanical source. This is usually stated in two terms which are descriptive of the genus and the species, respectively, and included with the part or parts of the plant official under the heading of the "Official definition." The geographical source is of importance, as is also the plant description which is sometimes designated as the pharmacognosy, proper. The constituents of the drugs, the use, properties and dose of the drug, besides a study of the official preparations which are made from the drug, all come in for their share of study.

Should Show Method of Calculation

Students when answering questions which require any mathematictal calculation, as in questions 7 and 8 of Lecture one of Part X, or question 8 of Lecture four of Part III, and also on the examination paper, should show their figuring. Oftentimes, the method, they have employed to obtain the answer is correct, but some minor mistake, either in addition, subtraction, multiplication or division, will give the incorrect result. If only the answer is stated,—and stated incorrectly,—no credit can be given; but if the correct method and an incorrect answer is given, some credit will be allowed.

Helped Him in The Drug Business

Era Course in Pharmacy June 8, 1920.

I completed your Course in less than four months, and am certainly well pleased. It is the best ten dollar investment I know of. Not a day passes but what something comes up in the drug business in which I am helped by your Course. You made it so agreeable for me that I feel that I have taken advantage of a brilliant opportunity.

Mt. Orab, Ohio. HALLEY C. HUEY.

QUERIES ANSWERED

Questions answered under this caption are of a general nature and are numbered consecutively, beginning with the issue of the Era for November, 1918.

377. What substances allied to chalk and derived from the animal kingdom are sometimes sold in drug stores?

Bone, crabs-eyes, coral, cuttle-fish bone, egg shell and prepared oyster shell.

378. What is hesperidin?

A glucoside or bitter principle, $C_{22}H_{26}O_{12}$, found in the white, spongy part or rind of oranges, lemons and similar fruits.

379. What is inverted sugar and what is meant by the term "inversion"?

Inverted sugar is the mixture obtained by the hydrolysis of cane sugar, and "inversion" is the term applied to the process of hydrolysis. In chemistry the term "inversion" is used to designate the splitting of disaccharides into simpler sugars.

380. What is meant by the term "revulsive," as used in therapeutics?

"Revulsive" is applied to therapeutic agencies designed to withdraw blood from or counteract the tendencies toward a morbid focus or process.

381. What test would you employ to detect the presence of salicylic acid in suspected fruit juices or syrups?

Ferric chloride T. S. which, if salicylic acid be present, will color the sample a bluish-violet red.

382. What is meant by the term anthotaxy? Phyllotaxy? Vernation?

The term anthotaxy, or inflorescence, is applied to the arrangement of the flowers and their position on the plant. Phyllotaxy is the study of leaf arrangement upon the stem or branch. Vernation is synonymous with prefoliation and relates to the way in which leaves are disposed in the bud.

383. What is the purpose of the hydrous wool-fat in the official process for belladonna ointment?

The wool-fat is used to facilitate the absorption of the alkaloids of the extract by the skin.

384. What are four official animal substances having melting points below 50° C.?

Lard, spermaceti, suet and wool-fat

385. What is purified oxgall?

Oxgall from which the mucilaginous matter has been removed by concentration and treatment with alcohol.

386. What test would you employ to determine the quality of purified oxgall?

A simple test is to dissolve the purified oxgall in water, when a clear solution is produced, which should remain clear upon the addition of an equal volume of alcohol.

387. What official preparations tend to gelatinize?

Fluidextracts of senega and stillingia, and tincture of kino.

388. What is the Latin title employed by the Pharmacopoeia to designate the anhydride of ortho-sulphamide benzoic acid?

Benzosulphinidum.

389. What salt is employed in the preparation of tincture of iodine and why is it used?

Potassium iodide; it is employed because it retards the formation of hydriodic acid in the finished preparation and also prevents precipitation when the tincture is mixed with water.

390. What test would you employ to distinguish starch from other cell contents?

The iodine test, which colors starch a deep blue; other cell contents are colored brown.

391. What are naphthalene and betanaphthol, and what chemical relationship exists between them?

Naphthalene, $C_{10}H_8$, is a hydrocarbon obtained from coal tar and purified by crystallization. Betanaphthol, $C_{10}H_7OH$, is a monatomic phenol occurring in coal-tar, but is usually prepared from naphthalene, of which it is a mono-substitution product.

392—What test would you employ to detect a nitrite in the presence of a nitrate?

Add to the solution a little potassium iodide and starch paste, then introduce a small pinch of powdered metallic zinc, and lastly acidulate with acetic acid, when if a nitrite is present, a blue color is produced, due to the liberation of iodine. This test is often necessary in the analysis of drinking water, being employed to detect the presence of nitrites derived from the oxidation of organic contamination.

393—What alcohol is widely distributed as the basic constituent of the fats?

Glycerin, chemically known as glycerol, $C_3H_5(OH)_3$, a triatomic alcohol.

394—What is a flora?

A collection of plants belonging to a particular region, and also, a description of the same.

395—What is meant by the expression "botanical nomenclature"?

The application of suitable names to the various species and genera of plants by which their distinctive characteristics may be recognized.

396—What number of terms are usually employed to designate the botanical name of a plant?

Two, the generic name or name of the genus and the specific name or name of the species to which a plant belongs.

397—What are eight salts which the Pharmacopoeia states are soluble in glycerin?

Ammonium chloride, potassium iodide, ferric chloride, potassium nitrate, sodium iodide, zinc chloride, calcium oxide and ammonium iodide.

398—What are three official inorganic salts that are soluble in ether? Arsenous iodide, lithium bromide and ferric chloride.

399—What are three official inorganic hydroxides and the chemical formula of each?

Aluminum hydroxide, $Al(OH)_3$; potassium hydroxide, KOH; sodium hydroxide, $NaOH$.

400—What is meant by atmospheric pressure?

It is the pressure exerted in every direction upon all bodies in contact with the earth's atmosphere. This pressure is equal to the weight of a column of liquid which it will sustain, being nearly equivalent to 15 pounds on each square inch of surface. At sea level the height of the column of mercury sustained by the atmosphere is practically 30 inches.

401—What instrument is employed for the quantitative determination of atmospheric pressure?

The barometer, the most common form being the mercury barometer. Theoretically, a barometer may be constructed of other liquids than mercury, but as the height of the column must always bear an inverse proportion to the density of the liquid used, the length of the tube must be greater for lighter liquids.

402—What is standard pressure and when and where should correction for the determinations by use of the instrument named in your answer to the preceding question be made?

The standard or normal barometric pressure is 760 mm. (29.92 inches) and barometric correction is important for such determinations at any locality more than 250 meters above sea-level.

DUPLICATE EXPRESS RECEIPTS REQUIRED

On and after July 1, the American Railway Express Co. will keep a duplicate copy of every receipt it issues when receiving business from shippers. The duplicates will be retained by the express company for the purposes of record and reference, and will be held at the shipping office. Shippers who have been accustomed to prepare their own receipts or who have their own forms have been requested to make provision for supplying duplicates of such receipts to the express driver or receiving clerk who signs them. As a matter of convenience to shippers, the regular receipt forms of the express carrier will be revised to permit their use in duplicate form.

In cases where prepaid receipts are now being issued in duplicate, the extra copy being used as a record of charges paid, a third copy will be required under the new system, and in such instances prepaid receipts will be issued in triplicate.

Women in Pharmacy

CONDUCTED BY EMMA GARY WALLACE

A HOSPITAL DISPENSARY PHARMACIST

The presiding genius of the drug room of the Angelus Hospital Dispensary, Los Angeles, Cal., is Miss Helen Stiles, a registered pharmacist who prepared herself for her work with enthusiasm and thoroughness. Her predilection for pharmacy comes naturally enough. Her father was in the drug business in Wisconsin for twenty-five years, and from "helping out" in the store after her graduation from high school she acquired such a liking for pharmacy that she decided to follow it as a profession. Gaining her four years of practical experience in all departments of the store, she entered the University of Wisconsin, graduating with the degree of Ph.G. in 1917. She then took the Wisconsin Board of Pharmacy examination and received full registration papers.

Miss Helen Stiles

She returned to her father's store and took an active part in its management, as help was scarce due to war conditions. A year and a half later her father's health became poor and it was thought best that he should go to California for the winter. This left the active management of the business in the daughter's hands, a responsibility which she most successfully assumed. While Mr. Stiles was West, it seemed best that a permanent change of climate should be made for him, so Miss Stiles took charge of selling out the store, turning it over to the new owner and getting the business settled up generally.

She then went to Long Beach, Cal., taking the California Board of Pharmacy examination, which she successfully passed in January, this year, and was soon appointed to her present position which she finds an ideal one for a young lady. She has to keep up the supplies, do the ordering and manufacturing, and has charge of all of the compounding. The remuneration is $125 per month, with two meals a day at the hospital, and Sundays free. She feels that she is gaining useful experience, and that this position may be the stepping stone to something better. Her friends are very sure that she will continue to make a place for herself in the future, even as she has in the past.

FIRST CHINESE WOMAN REGISTERED IN U.S.

Miss Nellie Choy Wong, the first native Chinese woman to become a pharmacist in this country, has passed a successful examination before the Rhode Island State Board of Pharmacy. She was submitted to an unusually rigid test, according to Michael H. Corrigan, Registrar of the Board, but passed with flying colors.

Miss Wong will sail within a few weeks for China where she will become the head of the department of pharmacy of the Church General Hospital in Wuchang. She hopes eventually to found a college of pharmacy in China. She has studied in this country, in the La Salle College, Boston, Columbia University and other institutions of learning for nearly ten years.

While in Providence taking her examination Miss Wong was the guest of Mr. and Mrs. H. Nelson Street, the latter the Secretary of the Retail Merchants Division of the Providence Chamber of Commerce.

AROUND THE CIRCUIT

The Ladies Auxiliary of the Texas State Pharmaceutical Association met at the home of Mrs. Charlie Smith, Dallas, and arranged the interesting program for the ladies which was carried out at the annual meeting of the State Ph.A. held in Dallas.

Mrs. W. W. Klore, of 2400 South State Street, Chicago, has returned from her long and delightful outing in California, and is now taking charge of the store while Mr. Klore takes a much needed rest, he having likewise gone to the Pacific Coast. Since Mrs. Klore took charge of the store, she has been visited by burglars.

A delightful dance was given last month in the Cameo Room of the Hotel Morrison, by Chicago Chapter, No. 2. It was Gentlemen's Night, and although many of the husbands of the members were absent in Washington there was a very good attendance. The program included short addresses by the retiring president, Mrs. J. H. Riemenschneider, the incoming president, Mrs. Charles R. Walgreen, and J. Wheatcroft, president of the Illinois Pharmaceutical Association; a group of songs by Mrs. Maude Hirsch Corkin; pianologues by Miss Bernice Hoelzer; dances—Grecian, Butterfly and Rose, the Misses McKinley; group of songs, Mrs. Veronica Krebs.

Mrs. B. A. Hoelzer presided and dinner was served. Among the out-of-town guests were Mr. and Mrs. Charles Battles, of Evanston, Ill.; Mr. and Mrs. Carl Abrahamson, Winnetka; Mrs. Louis Schmidt of Roseland; and Albert Schreiner, of Batavia, Ill.

At the last Chapter meeting, Mrs. Riemenschneider was presented with a very beautiful table scarf as a token of esteem and love, as well as appreciation of her untiring labors, by the members of Chapter No. 2.

Mr. and Mrs. Schanze of Baltimore, are just leaving for an extensive trip to the Pacific Coast. Mr. Schanze having sold his store at North and Pennsylvania Aves., is footloose for the present.

Mr. and Mrs. Joy of the Joy Pharmacy, Sutter & Kearney Streets, San Francisco, are vacationing at Santa Barbara.

The little daughter of Mrs. Nellie Blodau-McElhaney, Chairman of the Publicity Committee of Cincinnati Chapter, No. 5, is suffering from measles.

At the last meeting of the Cincinnati Chapter, the ladies listened to Mrs. Eva White, of Peabody House, Boston, her topic being "Community Service." She outlined very clearly what the ladies might do and how it could best be done in proving an influence for good to those about them.

William, the son of Mrs. Anna Overbeck, has had pneumonia, but is convalescent. Mrs. Anna Groenland has also been ill but is once more able to be out.

Mrs. D. E. Murphy of the Cincinnati Chapter attended the A. Ph. A. Convention in Washington,

D. C. She is quite recovered from the injured wrist which she suffered as a result of a fall on the ice in the late spring.

The 13th Anniversary Party of the Cincinnati Chapter, took the form of a card party at the home of Miss Diaringer and Mrs. Blesi. A pleasant feature was the gift of a prize to almost every player.

Philadelphia Chapter, No. 6, plans to take a boat ride on June 28th to Wilmington, Del. On the return trip the excursionists will be joined by the members of Wilmington Chapter.

Miss Eleanor Diehl reports for Louisville Chapter that the Fraternal Relations Committee is congratulating Mr. and Mrs. William Kaiser, of Milwaukee, upon the coming of a grandson into their home. It is expected that he will become as fine a druggist and as good a worker, and especially as good a man, as his grandfather.

The annual election of the officers of Louisville Chapter, No. 11, took place May 3d, at the College of Pharmacy. The following officers were elected:

Mrs. J. J. Seiberz, president; Mrs. Oscar Paul, 1st vice-president; Miss Jeanette Schweitzer, 2nd vice-president; Mrs. Henry Cohn, secretary; Mrs. O. C. Dilly, treasurer.

Louisville Chapter celebrated its tenth anniversary at this time. There was a large attendance and special note was made of the occasion. Mrs. J. R. Calver of Washington, D. C., who was present was elected an honorary member of the Chapter. Refreshments were served and a very good time enjoyed.

The Chapter Card Party which was held at the home of Mrs. C. Breckman during the month proved to be a very pleasant occasion.

Rock Island Chapter, No. 15, held its monthly meeting at the home of the President, Mrs. H. Rowe. Card games were played by part of the members, while the rest watched or did fancy work.

Two out-of-town visitors present for the afternoon were Mrs. W. A. Annissy of Aurora, and Miss Bradshaw of Fairfield, Iowa. The former was the guest of Mrs. William Ullermeyer, and the latter of Mrs. Jericho, of Moline. Two new members were received, Mrs. J. C. Graham and Mrs. F. Knaack, both of Rock Island.

The June meeting of the same Chapter was held at the home of Mrs. Charles Ullermeyer, a very large attendance being present. After routine business was attended to, cards and a social time were enjoyed. This was followed by a very delicious lunch. Two new members were welcomed,—Mrs. R. Cunningham and Mrs. H. Sieble, both of East Moline.

Milwaukee Chapter, No. 19, held its regular monthly meeting at the Hotel Blatz. On account of illness, Mrs. O. Widule was unable to be present, and Mrs. E. Raeuber was appointed secretary pro tem.

A Nominating Committee was named to choose a roster of officers to present to the Chapter at the next meeting.

Regret was expressed that Mrs. F. Esau was still confined to a sanitarium by illness.

Through the courtesy of Mrs. Sol Eckstein, the Chapter had the pleasure of listening to Miss Hanna Marx, Chairman of the Committee of the Milwaukee Teachers' Association for the Increase of Salaries. Miss Marx explained why the teachers are asking for more pay. As a result of this explanation, the following Resolutions were adopted and sent to Governor Philipp, to urge him to take up the matter of adequate salaries at the next session of the Wisconsin Legislature:

> Whereas, due to the inadequate salaries paid to teachers in our public schools, our public educational system is threatened with the loss of many of our best-trained teachers and educators; and
>
> Whereas, proper school training and character building for children cannot be expected unless the people of the city and State employ well-qualified and efficiently-trained teachers to whom to entrust the care of their children,
>
> Be it resolved, that the Milwaukee Chapter of the W. O. N. A. R. D. indorse the movement inaugurated by the Milwaukee Teachers' Association for the payment of better salaries to teachers in the public schools; and
>
> Be it further resolved, that we earnestly request his Excellency, Emmanuel L. Philipp, Governor of the State of Wisconsin, to include in the call which he may issue for a special session of the legislature, such legislation as will permit the levying and collecting of increased tax revenue for the purpose of paying higher salaries to teachers of the public schools

These resolutions were published in all the Milwaukee papers.

The last meeting of the Indianapolis Chapter, No. 20, was held at the home of Mrs. James C. Mead. The gathering deserves "honorable mention" since it had the largest attendance to date.

The Nominating Committee conducted a vote by ballot on names for nomination, to be elected to offices at the next meeting, which will be the first one to occur in the rearranged calendar.

The Chapter accepted the hospitality of Mrs. Edward Ferger for June 7th to be used as a "Round-Up" day for Committee meetings, and the date on which to complete arrangements and plans for next year's work. This is an excellent idea in order to have everything ship-shape to take hold of in the fall before the adjournment for the summer.

The Indianapolis Chapter arranged a program for the Indianapolis Pharmaceutical Association, held at Culver on June 22-24. Mrs. T. C. Henry was invited to address the members at their business meeting. The president, Mrs. Henry J. Borsch, read a paper at one of the sessions of the association.

Cleveland Chapter, No. 21, gave its Annual Card Party and lunch at the Hotel Hollenden. There was a large gathering and everyone had a royal good time.

Mrs. Fox, the president, urged the ladies to be on the lookout for some girl to make use of the Scholarship Fund.

Mrs. Francis, who is on the Philanthropic Committee of the Federated Clubs, spoke in behalf of that work and solicited aid.

At the next regular meeting, there will be the annual election of officers.

Wilmington Chapter, No. 12, elected officers for the ensuing year at their last meeting. They are as follows:

President, Mrs. D. I. McColley; 1st vice-president, Mrs. Donaldson; 2nd vice-president, Mrs. Hancock; 3rd vice-president, Mrs. Rovitte; recording secretary, Mrs. C. L. Thompson; corresponding secretary, Mrs. O. C. Draper; treasurer, Mrs. Young.

Many expressions of appreciation were extended to Mrs. Draper, the retiring president, for her efficient leadership for the past three years. Mrs. Lee was the guest of the day. Dinner was enjoyed at Green's, Philadelphia, after which an organ recital was attended at Wanamaker's. On the return trip the ladies reached Wilmington at 11:30 p.m. in a pouring rain, but they parted as gaily as they came together, which spoke volumes for their enjoyment of the day.

Boards of Pharmacy

OHIO

The Ohio State Board of Pharmacy, in session at Hotel Cleveland, Cleveland, recently granted pharmacist certificates to the following: Newell Grooms, Bethesda; Edward C. Decker, Cincinnati; Frederico M. Pedrosa, Toledo; Guillermo P. Clutter, Toledo; Frank A. Pietrykowski, Toledo; Harry L. Cohen, Cleveland; Martin Schneble, Dayton; Edwin P. Weik, Hamilton; Arthur M. McGory, Sandusky; Harold L. Stewart, Greenfield; Samuel W. Carnahan, East Liverpool; Alex J. Gribben, Bellaire; Wyatt R. Sullinger, Wauseon; Carl M. Mott, Garrettsville; Levi M. Stockwell, St. Marys.

Assistant certificates were granted the following: Maurice A. Efros, Cleveland; Maurice A. Friedberg, Cleveland; Donald W Hasbrouck, Cleveland; Adolph Berland, Cleveland; Mrs Frank M Hladky, Cleveland; Gustave E. Olson, Cleveland; Norman K. Hyatt, Columbus; Russell S. Tobias, Columbus; Lloyd B. Ernsberger, Ada; Wendell H. Potkin, Ada; Donald C Merrell, Toledo; Robert J. Wall, Jr., Toledo; Inez C. Baker, Cincinnati; Clayton W. Spreadbury, Akron; LeRoy W. McCartney, Roundhead; Charles H. Donohoo, Georgetown; Bernice Patterson, Lebanon; Linus L. Ditzoe, Jr., Somerset; Ralph W. Duvall, Bethesda; Hughes Beeler, Hamilton; Otis J. Miller, Sandusky; Otto P. Gray, Rushmore.

The following were granted pharmacist certificates upon their registration in another state: William W. Stewart, of Pittsburgh, Pa. from Pa.; Clarence E. Stump, of Pittsburgh, Pa. from Pa.; James W. McAteer, of Cincinnati, from Pa.; Walter H. Elich, of Cleveland, from Ill.; A. Roy Harms, of Akron, from Indiana; Fred Martin, Akron, from Miss.; Emmette D. Lane, of Cleveland, from Mich.; Ellis E. Glycofrides, of Akron, from D. of C.

The highest grade made on the pharmacist examination was that of W. R. Sullinger, of Wauseon, with a percentage of 91; on the assistant pharmacist examination, Otis J. Miller, of Sandusky, with a percentage of 94.8.

TENNESSEE

The following applicants were successful at the recent examination of the Tennessee Board of Pharmacy held in Nashville, and received certificates: E. H. Miles, Knoxville; G. R. Orme, Nashville; Miss Elizabeth Peas, Nashville; W. C. Smotherman, Nashville; H. P. Stockard, Lawrenceburg; O. H. Hagen, Lawrenceburg; C. D. White, Bristol; F. B. Williams, Nashville; C. L. Bellfield, Nashville; Naomi Torrence, Nashville; and R. E. Whimberley, Nashville.

The Board elected officers as follows: E. V. Sheeley, president, Memphis; G. W. Coulter, vice-president, Clarksville; Ira B. Clark, secretary, Nashville.

NORTH CAROLINA

The North Carolina Board of Pharmacy held an examination for license to practice pharmacy at Raleigh, on June 8 and 9. Out of a class of thirty-six, the following twenty-six were successful: E. L. Bradley, Old Fort; M. L. Bizzell, Kinston; F. H. Cline, Kannapolis; T. G. Crutchfield, Raleigh; R. E. L. Dees, Burgaw; T. J. Etheridge, Jr., Washington; W. O. Ferrell, Nashville; F. E. Gerran (col.), High Point; D. D. Hocutt, Hillsboro; L. M. Ingram, High Point; W. R. Johnson, Dunn; G. S. Kirby, Jr., Marion; T. P. Lloyd, Chapel Hill; V. D. Lea, East Durham; A. N Martin, Roanoke Rapids; A. R. Moore, Wilson; P. J. Melvin, Roseboro; W. M. Mebane, Mebane; F. S. Petrea, Greensboro; S. M. Price, Charlotte; M. B. Phillips, Concord; J. H. Pierce, Rocky Mount; T. B. Twitty (Miss), Rutherfordton; Irving Walker, Reidsville; H. W. Walker, Norlina; R. E. Wimberley (col.), Raleigh;

THE PORTUGUESE CORK INDUSTRY

According to a report made by the Association of Corkwood Manufacturers of Portugal, the total world production of corkwood is estimated at 180,000,000 kilos, or 396,832,000 pounds, of which 45 per cent is produced in Portugal, 30 per cent in Spain, 5 per cent in France and Italy, and 20 per cent in Algeria and Tunis. Portugal probably will maintain its position for several years. In some districts of Portugal the quality of the corkwood is superior to that of other countries. The forests in Algeria and Tunis, the exploration of which began recently, may produce larger quantities of corkwood in the future. The same is true of Morocco, whose extensive forests will enable it to become the first producing country of corkwood in the world.

In the importation of cork from the seaport town of Polamos, Spain, there has recently developed much difficulty because of labor conditions there which render tramp steamers disinclined to put in for cargoes. Before the war the Crown Cork & Seal Co., Baltimore, owned and operated a fleet of thirty vessels. These were lost or taken over by the government during the war, and the company now is forced to charter its steamships for this service. Recently the City of St. Joseph, a vessel of 8,000 tons capacity, arrived in the harbor of Baltimore with a million-dollar cargo of cork aboard. Two other similarly laden vessels are crossing the Atlantic with equally valuable cargoes.

YOUR LIBERTY BOND

The United States Government borrowed money from you to finance the War. You hold the Government's promise to pay you back. This promise is called a Liberty Bond or Victory Note. On this bond is stated the conditions under which the Government borrowed the money from you.

For instance: If you hold a bond of the Third Liberty Loan, it states that on April 15th and October 15th of each year until maturity, you will receive interest on the amount you paid for the bond. Other issues bear other rates of interest and other maturity dates, all of which are clearly stated on the bond. Now, if you keep your bond until the date when the Government pays you in full for it, you do not need to worry if, in the meantime, the price is low one day or high the next. You and Uncle Sam are living up to your agreement with each other, and neither will lose by it.

On the other hand, if you sell your Liberty Bond now, you will find that the man you sell it to will not give you a dollar for every dollar you paid for it. The price has been brought down because so many people are offering to sell their bonds. If the market is flooded with tomatoes, you can buy them cheap, but if everyone is clamoring for tomatoes and there are few to be had, the price goes up. The same is true of Liberty Bonds. Short-sighted people are dumping them on the market, and wise ones are buying them.

The best advice that can be given to the owner of a Liberty Bond is this: Hold the bond you bought during the war; it is as safe and sound as the United States Government itself. Buy as many more at the present low rate as you can afford. If you hold them to maturity, you are bound to make the difference between what they sell at now and their face value. You will also receive good interest on your investment. Hold your Liberty Bonds and buy more.

MONSANTO'S NEW CATALOGUE

We have received a copy of the catalogue recently issued by the Monsanto Chemical Works, of St. Louis, Mo., which is a beautifully printed and illustrated affair, descriptive of the various products manufactured by this concern. This catalogue differs from most catalogues issued by manufacturers in that it gives the specification of the products, and compares them with the U.S.P., B.P., and other foreign standards. The products embrace a large number of medicinal chemicals derived from coal tar, which in character and quantity of output reflects the progress this concern has made since 1901, when it first undertook the manufacture of medicinal and fine chemicals that prior to that time had been produced in Europe only.

In 1914 when the World War broke out, the Monsanto Chemical Works undertook the manufacture of all the intermediates required in their various operations and which previous to that time were imported from Europe, so that now they are independent of all foreign sources for raw materials. In order to further strengthen their position in this respect, they acquired in 1917 the acid plant of the Commercial Acid Company, and in 1919, started to erect an electrolytic plant for the production of caustic soda and chlorine, which plant is now about completed. Thus equipped, these manufacturers have demonstrated that they are not only in a better position to serve their patrons than ever before, but are materially increasing the output of American-made chemicals in spite of the most active foreign competition.

An interesting note is found in the company's announcement of their intention to manufacture synthetic camphor, the plant for which is now under construction in East St. Louis, and is expected to be producing by the end of the year Interest in the production of this article is growing, as the supply of Japanese camphor is diminishing rapidly without additional resources to make an increase of this supply possible. This, coupled with an ever increasing demand for camphor from all sources, especially the celluloid industry, whose rapid expansion has been greatly accelerated by the demand for moving picture films, make the need for increased amounts imperative. The Monsanto company state that the only solution to this condition is synthetic camphor, and they are determined to make its manufacture a success.

MILTON HAS COME TO AMERICA

Alex. D. Shaw & Co., 12 Stone street, New York, general sales agents for the United States, announce to the drug trade the introduction of a preparation belonging to the hypochlorite class under the name "Milton," which combines the qualities of a germicide, antiseptic, sterilizer, deodorizer, stain remover and bleach, a product which is claimed to be different from any preparation ever before put on the market, and that although it is one of the most powerful germicides known to science, it is harmless to human and animal life; perfectly safe to have about for all of its many uses.

Its success in England where it has been sold wholly on its merits, has been phenomenal, and there seems to be no reason why the new product should not be equally successful here. The great advantage to a consumer having in one bottle, a harmless preparation that can be used for so many different purposes is obvious, while the dealer will be quick to see the opportunity Milton accords him of gradually reducing his capital investment by the elimination of certain unprofitable lines he has always been obliged to carry. Druggists who stock Milton will be backed up by an extensive advertising campaign covering large space in the newspapers of prominent cities, and also striking advertisements in a large number of high class magazines of national circulation. It is bound to become a good seller in the American market, and to duplicate the great success it attained in England.

WHY SELL BAYER TABLETS OF ASPIRIN?

The Bayer Company is spending great sums each year to drive home the story that the "Bayer Cross" is on "Bayer Tablets" of Aspirin, genuine Aspirin prescribed by physicians for more than twenty years and proved safe by millions of people So insistent and emphatic has the company been on this declaration that practically all druggists now realize that the public expects "Bayer's Tablets of Aspirin." Having convinced the druggists of this fact, the company is spending a fortune to prove that it pays to push a recognized "best seller" rather than load up on dead stock, especially when the making of greater profits is considered, together with the plan of taking back all unsold goods for cash, which gives druggists a sure thing and removes all possible elements of risk.

The Bayer Company believes in backing up the druggist with other sales helps in addition to home newspaper and magazine advertising. Write to the Bayer Company (Inc.), 117 Hudson street, New York, who will gladly send prepaid to any druggist one of its handsome new window displays in colors.

COURSES AT THE PHILADELPHIA P.C.P. & S.

Beginning with its 100th annual session this fall, the Philadelphia College of Pharmacy will be known under its new title of the Philadelphia College of Pharmacy and Science, conforming to the change in the charter which has been granted under the laws of Pennsylvania. This change enlarges the scope of the college and permits the granting of degrees in science, as well as in pharmacy. As announced on another page of this issue, this college gives two, three and four year courses leading to all the recognized degrees of Pharmacy. The two year course in pharmacy leads to the degree of Ph.G., while the four year course in pharmacy and chemistry leads to the degree of B.Sc. and offers laboratory work in Bacteriology, Pharmacognosy and Physiological Assaying. Other special courses in various subjects pertaining to manufacturing and retail pharmacy, lead to the degrees of Pharmaceutical Chemist (Ph.C.), Bachelor in Pharmacy (Ph.B.), and Doctor of Pharmacy (Phar. D.).

PROCEEDINGS OF THE NATIONAL WHOLESALE DRUGGISTS ASSOCIATION. Forty-fifth annual meeting held at New Orleans, La., Nov. 3 to 7, 1919.

This volume, uniform in style and binding with the volumes of proceedings issued by the association in previous years, contains a very complete report of the meeting of the N.W.D.A. held last year at the Hotel Grunewald, New Orleans, as also the full text of the president's address, the committee reports, and verbatim reports of the addresses delivered by the various speakers at the banquet held at the Hotel Grunewald at the close of the meeting. The Committee reports are well worth reading by any one interested in the commercial side of pharmacy, not only for the facts they contain, but for the many side-lights they serve to throw on trade practices and the general economic situation which could scarcely be found elsewhere At the meeting eighteen applicants were elected to active membership, and seventy applicants were elected to associate membership in the association, bringing the total membership up to 259 active, and 396 associate members. The 1920 convention of the association will be held in Cincinnati, October 25 to 29, the Hotel Gibson having been selected as headquarters.

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The Crude Drug Situation

Larger shipments of various crude drugs continue to reach the New York market from both foreign and domestic shipping points. Some prices are coming down as a consequence. It is coincidental that increased offerings from abroad have reached here just at the time when newly collected domestic botanicals are finding their way to this market. The combined effect of larger arrivals from both sources at the same time has naturally been bearish, but this pressure should not be overestimated by consuming manufacturers. Although a superficial examination of the botanical market at the present time may appear to show that a widespread downward movement has been inaugurated, a closer scrutiny of price fluctuations proves that although quite a number of products show the effects of enlarged supplies, the declines actually touch a very small portion of the list and the weakness is not general. Quotations for the greater portion of the group are apparently firm. How long this condition will continue to exist, however, is the question.

It is with keen interest that the American crude drug trade notes the revival of something like real shipments of botanicals out of Hamburg. For close on to six years, this port—perhaps the greatest crude drug center in the world during pre-war days—ceased to be a factor in the trade. Increased offerings from Hamburg as well as from other European centers, are taken to indicate that the industry abroad shows the beneficial results of a short period back "in harness" after the years of wartime disorganization.

The American gathering organization is also getting back into a semblance of pre-war shape and apparently recovering from the acute shortage of labor which the demands of the munition makers and shipyards caused during hostilities, according to reports. With an outlook for the return to normal conditions as far as collection and distribution are concerned, just what is the prospect for a return to normal in the matter of prices? And when? The situation is being watched closely and deserves close attention. To a great degree the present weaknesses in many of the foreign materials are due to the sudden release of products which have been tied-up by the dock strike in New York. In spite of the large offerings of accumulated drugs, the retreat of prices has been of a very orderly nature and from indications, is at no time likely to take on the proportions of a rout.

The Shakers and Pharmacy

Pharmacy like a great clearing house has called upon many widely divergent industries for the materials which eventually find their way to the shelves of the modern druggist and which in turn are diverted from thence to the armamentarium of the medical man for the healing of the nations When one comes to think of them, such thoughts loom large in the imagination, and there passes in review the endless series of contacts with other professions, the numberless contributions from unnamed industries, and the accretions which the years have added in forming the practice of present day pharmacy. The contributions of the Shaker medicine makers, the story of which was partly told in last month's Era, and concluded in the issue of this month, certainly added something to the world's knowledge of crude drugs, while the plant products evolved were a needed addition to the materia medica of the pioneer American physicians

The history of the Shakers in America has been frequently told, and while their peculiar religious views have never gained that ascendancy which the founders hoped for, the efforts of the sect in various ways filled a gap in the early needs of the country. Nowhere has this been more in evidence than in their work in Mount Lebanon where, as early as 1825, they began the preparation of native herbs and indigenous plants for medicinal purposes In connection with their work, if we are to believe John Uri Lloyd, was established the first great Eastern laboratory devoted mainly to medicinal plant preparations, and perhaps the most extensive of all American plant gardens, past or present

Communities of Shakers were established in other places. In Ohio, there were several places where medicinal plants were cultivated and indigenous herbs gathered. It is in this direction that the history of this strange cult will primarily appeal to the average pharmacist. But he must not forget that their success in this venture was due to their practical application of the doctrine of work. As they believed, it was the work of the saints to redeem the earth from the effects of the curse, and that labor bestowed in making the earth yield her increase and in developing her beauty, was truly a sacred and priestly function. Prompted by such ideals they worked not altogether for gain, while the impress they left on the botanical drug industry of the country constitutes one of the most interesting chapters of pioneer industry in this country.

The Basis of Reciprocal Registration

A resolution adopted by the American Registered Pharmacists organization at the annual convention held in San Francisco last month, records the opposition of the members to a provision of the present California pharmacy law which permits the board of pharmacy to register pharmacists without examination by reciprocity with boards of other States. The members of the organization would amend the present law so that unless the applicant for registration in California is a graduate of an accredited college of pharmacy, he will be required to pass the examination of the California board before he can be registered in the State

Just how this proposal to amend the pharmacy law will meet the approval of the majority of the pharmacists of California we are not informed, but from this distance, the resolution appears to be another indication of the growing sentiment in various parts of the country in favor of college graduation as a pre-requisite to registration. Undoubtedly there will be some who will profess to believe that if such an amendment is enacted, it will tend to restrict somewhat the immediate benefits the pharmacists of the State now derive from reciprocal registration, for there is no question but that such a provision does make for a wider distribution of qualified help, and does much to equalize and stabilize the supply of pharmacists.

Reciprocal registration to be universally applicable must be based upon the fundamental principle of uniform requirements exacted of all applicants, and until all of these are established, registration by reciprocity between the various boards will labor under more or less of a handicap. But from the viewpoint of the present, such a condition is not likely to continue for any great length of time. According to the report of Secretary Christensen made at the last meeting of the National Association of Boards of Pharmacy, fifteen States have already adopted college of pharmacy graduation requirements, and others are expected to follow. Fully one-half of the States now have two years of high school requirements for entrance to examination as registered pharmacist, a few require full high school graduation, and the majority of the remaining States one year of such work.

So much already attained, with a determined effort on the part of the Association of Boards of Pharmacy and the Conference of Pharmaceutical Faculties to make college of pharmacy graduation a requirement for full registration within the next three years, indicates in no uncertain manner what pharmacists may expect. This being the situation, the American Registered Pharmacists appear to be working in the right direction. They favor college graduation as a pre-requisite requirement to registration, and based upon such qualifications, they indorse the principle of reciprocal registration, two of the most important planks in the present progressive movement.

Vanderbilt School Discontinued

The announcement of the discontinuance of the school of pharmacy of Vanderbilt University, will be read by many with regret. Since its opening in 1879, it has had able teachers and its graduates have made their mark in pharmacy. It is not their fault that the school has been discontinued. Highly specialized scientific instruction requires a large fund to provide the teaching plant and equipment, and also, the united support of the profession demanding such training. At Vanderbilt, it is stated, the University has not had the support of State laws, nor has it always had the encouragement of State associations of druggists. Therefore, the school of pharmacy will be discontinued "until conditions make it possible for a professional course of high grade to be carried on with success."

Mt. Lebanon Medicine Makers--the Shakers

By GEORGE NILES HOFFMAN

(Concluded from page 198, July Era)

MOTHER ANN who became known among her followers as the "Pontifex Maxima" or "Pope" in authority, died in 1784, but her followers continued to prosper. They kept up the work which she had planned. The Shakers originally owned about 6,000 acres of the finest kind of agricultural land, which included the famous Shaker Mountain, where worship from this high point was carried on in secret. The Shakers, being industrious, built up many factories and for a time the products made in the Shaker village were much sought after. They also tilled the land well, and were the pioneers of scientific agricultural methods. Many of their industries have been discontinued, however, for lack of hands to keep them going.

Historically Speaking

In the New York State capital at Albany, carefully preserved in a suitable cabinet, may be seen the original buzz-saw, a wonderful labor saving device used for sawing wood. It is the first implement of this kind ever invented, and was the idea and craftsmanship of a Shaker brother, named Amos Bishop. Later Bishop and another Shaker named Bennett invented and used the first woodworking apparatus known in wood-working industries as the planing and matching machine. Here at Mount Lebanon, among the Shakers also, was made the first and finest wool-carding machinery made for a long period. For a long time these industrious people derived an excellent income from the manufacture and sale of these famous carding machines. On the Shakers' model farms the best seeds were grown, and here garden seeds were first put up to be sold in packages. The Shaker seed business was one of their great enterprises. The Shakers propagated medicinal plants as early as 1825, long before such cultivation became widely spread in the United States. They also devised the famous system for taking down medicinal extracts *in vacuo*, and their vacuum apparatus was a model for the great medicine industry of today. The Shakers first pressed herbs into small packages, and have sold as much as seventy-five tons of drugs, made up into small ounce packages, in one year.

Recruiting Disciples of "Mother Ann"

Suppose some poor "worldly" person, sick at heart from the cares of life or a victim of the woes of modern society should request admittance into the Shaker community at the office of an elder at one of the family headquarters on Mount Lebanon. Would the Shakers welcome a new convert? Would the assurances of a good home, a happy and comfortable existence be given, as in the days gone by?

Group of Shakers or United Believers in Christ's Second Appearing

Could the world be left outside and forgotten forever, when admittance was asked? That is the question. Yes, one may still join one of the Shaker families if he will embrace the teachings of "Mother Ann," which mean to draw oneself away from the outside world and follow the strict Shaker religious doctrines and practices. One of these, which keeps hundreds of converts from the home of plenty which Shakerism assures, is the law which forbids marriage. One may have been married, but must cease to live in that state when they enter the Shaker community. The person who would agree to the rules of the religion which Shakerism represents would surely be made welcome, for the Society is fast on the road to decline and oblivion for lack of younger followers. It will not be many years before there are no Shakers in the country, and the "Church" is very rich. To the last survivor goes the entire wealth.

The Shaker "families" have all things in common. Upon their organization, the lands and properties of the new members were sold and the money so obtained used to buy the present Shaker Mountain property. The new convert to Shakerism is required to bring all he has in worldly goods, and cast it into the common treasury. There are about five "families" left in the Mount Lebanon village. Each "family" is a distinct self-supporting community with its own organization, spiritual and temporal Two men and two women, called elders and elderesses respectively, manage the church affairs of the "family" They are, however, subordinate to the ministry of the Society and the Novitiate Elder. The temporal affairs are attended to by deacons and deaconesses, there being two of each. They keep an account of the business affairs of the "family" and assign each member a portion of the labor to be done. In addition to these officers are the general trustees of the Society in whom and whose successors, are vested the titles of the property in real estate of the Society.

A Chance for Homeless Children

The Shakers love children and care for them with exceeding kindness. They have a school for the little ones and many Shaker folks are liberally endowed with the best of education and high culture. As all children come into the "families" by adoption they receive tender care and the guidance of the Shaker discipline. But these children do not appear to embrace the Shaker doctrines, but leave for positions in the outside world when the call becomes too strong for them to withstand. Upon leaving the "family" which had sheltered them, these young people renounce all rights to the vast Shaker estates which will eventually become the property of the younger generation. The Shakers are actively engaged, but they take the time to read the latest and best magazines, and keep up-to-date with the outside world's affairs. They have a wonderfully complete library, and in it may be found the best of books. At frequent intervals meetings are held, where the subjects of the day are talked over. Topics often discussed include science, art, religion and politics. These meetings are conducted for all, and the men and women meet together for social culture, but the things which excite the passions are studiously avoided.

A Shaker Meeting

In times past hundreds, yes, thousands, of annual visitors traveled to Mount Lebanon to attend Shaker meetings, but owing to the small number of brothers and sisters still alive, few services of the old-fashioned kind are now held. The Shaker meeting house at Mount Lebanon is a large wooden building, plain but of odd dimensions. Inside is a large room where the occurrence of posts has been carefully prevented. This church would make an ideal dance-hall. There are no seats to interfere with the dancers. All along the walls on the side are wooden pegs where the members hang their coats and shawls while dancing, and here one notices a few seats for use when the minister is speaking. The feature of the services is the dances in which the people indulge. They explain this joyful demonstration of their feelings by the exhilarating and overpowering delight they have when the divine grace is in their hearts These dances are regular and methodical as the old-time quadrille, and while they are being performed hymns and spiritual exhortations are sung. The precision of trained soldiers is made possible by constant practice. The marches and counter marches which follow are supposed to be typical of some phase of their religious belief. They circle and swing about, joining hands and shaking hands and then march about the room again. In addition to the public worship, each "family" assembles every evening in a room set aside for the purpose and sing and dance. They kneel at prayer upon arising and going to bed, and neglect no religious duty which they think will improve the serenity of their lives

Regarding the religious doctrines of the Shakers a Novitiate Elder of the Mount Lebanon society has said·

They are· first, that Christ has made his second appearance on earth to a chosen female named Ann Lee as he made his first appearance on earth to a man Jesus of Nazareth; Christ being neither the man Jesus nor the woman Ann, but a spirit from the second resurrectional heaven, who became incarnated in them in much the same manner that a child is the incarnation of its parents or a scholar of his teachers; the character of the one being transferred to and formed in the other. Revelation from the Christ heaven is therefore the "rock" upon which the Church of Christ both in the first and second appearing is founded. This Christ-heaven, being the nearest to Deity, stands in the same relation to the inhabitants of all other globes that it does to earth.

An emanation from this Christ-heaven always commences the work of harvest, i.e., it begins to cut the inhabitant off from the ground and field of natural production or generation; this being the true resurrection because it raises them from the natural to the spiritual order, by leading them to forsake earthly relatives—father, mother, brother, sister, etc., and forming themselves into "households of faith" where they have a hundredfold of relatives of a spiritual character all living on the basis of a celibate life.

Holding that the work of God with humanity is progressive from the beginning of creation to the end of the work of redemption, they claim that there have been seven successive "churches," the seventh of which is theirs.

Also, the words of Jesus, "Few are saved" Shakers interpret to mean that only a certain percentage of the race are or ever will be called to live a pure celibate life while in the body. These will be the ministers or saviors to the remainder of the inhabitants of the earth in the spiritual world; they also act as a check to the increase of population, as a substitute for war, famine and disease and other things which tend to prevent the propagation of the race. The Shakers do not condemn marriage *per se*, but they do hold that under the law of use it should be restrained to the simple procreation and rearing of offspring in accordance with the practice of animals.

Small Chance for Long Survival

It will not be many years before there will be no Shakers in America. The chance that the families will continue to grow and add new members becomes every day more doubtful. No one seems to desire this calm, peaceful life. What then will become of the enormous sums of money, the vast estates these people own? That is a question which few might answer. Every season brings its toll of deaths among the last of the real true Shakers who knew the prosperous days of Shakerdom.

The Shakers have a school for the little ones, a group of their adopted children being here shown on the lawn with two of their teachers.

There are a few children who have been adopted into the life, but they do not seem inclined to long continue as Shakers. If any young person should get into the organization now it would not be long if he did the right way and lived up to all the rules and regulations, before he would be very wealthy and the master of all he surveyed.

The Gradual Decline of the Shaker Empire

It is a sad thing to pass through the village and see the beautiful estates falling into decline because there is no one left to keep them up, the orchards are full of rank dead growth and need the pruners' shears. The hedgerows are covered with bushes and vines. Factories where once the hum of thriving industry was heard have now passed into a deadly silence. Everything about the buildings looks dilapidated and forlorn. Mountain streams which once were dammed and harnessed to turn the factory wheels run rampant over the broken-down dams the industrious Shakers built to curb them. The chair factory has fallen in and the fields are unploughed. Families which could count their members by hundreds now number them in threes and fours. Herds of cattle have dwindled from hundreds of sleek fine head to a few milch cows for the use of the remnant of the Shaker people as a milk supply.

Maple groves where once hundreds of pounds of pure tree sugar were harvested are now grown up and filled with dying trees or dead limbs. Some of the families have passed out of existence and nothing remains but the ruins of the houses wherein they used to live their pure lives of industry and kindness overflowing. The screeching siren of the passing automobile shrieks its noisy way over the mountain where once the followers of "Mother Ann" knelt in secret supplications to the Most High. The church itself, now seldom used, only remains the same. It is kept in pure white with green blinds which seem always to be closed.

The flower gardens, once the model of horticultural art for an admiring world, have now passed into disuse. Where once the sturdy hand-made gate was swung it has fallen and lies rotting there. Birds build nests in the shops where useful things to man were made. They fly in through the broken panes of glass. It is a sad, sad sight indeed to witness the destruction of the works of man by time. And then as we look back a hundred years, when Shakerism was at its height and then turn to see it as it is today, we may well with Whittier repeat:

"For of all sad words of tongue or pen, the saddest are these, 'it might have been.'"

NEW SOURCE OF ALCOHOL

Mowra flowers of India have been suggested as a possible source of alcohol for use as motor spirit. These flowers possess thick, juicy petals, are rich in sugar, and are used by the natives as a food stuff, especially by the preparation by fermentation of an alcoholic liquor called daru or mohwa spirit. A single tree will yield from 200 to 300 pounds of flowers a year, and produces a valuable oil-seed, which is exported in large quantities to Europe. During the war the flowers were used in India for the production of acetone, the yield being said to be ten times as much as that obtained by distilling wood. It is now suggested that these flowers would be a cheap source of alcohol, about 90 gallons of 95 per cent alcohol being obtainable from a ton of dried flowers. It is estimated that in the Hyderabad State alone there are already sufficient mowra trees for the production of 700,000 gallons of proof spirit per annum, in addition to that necessary for the local liquor requirements. This could be worked up into motor spirit.—(*Bull. Imp. Inst.* through *Pharm. J.*)

Higher Standards for Creosote*

By L. Wallis Gibbons

IN VIEW of the fact that the importance of creosote as a therapeutic agent is rapidly increasing, and that its value depends entirely upon its quality, it is unquestionably necessary in the interest of medical science to have a high pharmacopoeial standard. This object is not obtained through the application of the standard set by the Ninth Revision of the Pharmacopoeia.

Creosote, in order to be of sufficient value therapeutically, must be given in large doses. In support of this, liquid guaiacol can be administered in large doses and crystal, or pure guaiacol, in even larger doses. The Pharmacopoeia describes creosote as a mixture of phenols and phenol derivatives, chiefly guaiacol and creosol, the therapeutic value of these two substances being well-known. Liquid guaiacol, which occupies a position somewhat between crystal guaiacol and creosote, is a mixture of pure or crystal guaiacol with variable amounts of pure creosol and cresols.

The advantage of liquid guaiacol over U. S. P. creosote is due to the absence of caustic properties and poisonous compounds. The objectionable features are not exhibited by the diatomic phenols, and therefore it should be the aim of the Pharmacopoeia to provide a standard that will insure as high a content of the desirable constituents as practicable.

Comparing the standard of the Eighth Revision with that of the Ninth Revision, we find that the former provides that "creosote should not become brown in color on exposure to light," while the Ninth Revision qualifies this by saying that creosote "should not readily become brown on exposure to light." The Eighth Revision also provides that creosote shall have a specific gravity of 1.078 at 25° C. and "when distilled most of it comes over between 200° and 220° C." The Ninth Revision requires a specific gravity of 1.073, but very properly provides that the volume of distillate between 200° and 220° C. shall not be less than 80 per cent. If in the Eighth Revision the word "most" in connection with the boiling range, were interpreted to mean at least 95 per cent, the standard provided by that revision would be considerably higher than that provided by the present revision.

We believe the reasons that caused the adoption of the definite standards of the Eighth Revision are sound. The tendency of all modern medical practice is to come as near as possible to definite chemical substances of known constitution and known therapeutic value, and the standards we advocate here would eliminate many complex, objectionable, and valueless constituents from a very valuable medicine. Undesirable constituents found in creosote not ruled out by the present U. S. P. standard are: Homologues of phenol in excessive amounts (these are caustic, poisonous and of no value medicinally); cyclic and aliphatic alcohols and ketones; furane derivatives, coerulignol and other high boiling phenols, and acids and other constituents of wood tar.

Creosote with proper care can be made to meet a higher standard which will insure comparative freedom from these objectionable compounds. It can be demonstrated with a sufficiently large quantity of a given sample meeting the present specifications of the Pharmacopoeia, that creosote will often contain from 1 to 2 per cent of carbolic acid; by leaving out the fraction boiling below 200° C., the carbolic acid and the cresols are reduced to a negligible trace. It is to these latter substances that the highly caustic action of the portion boiling between 195° and 200° is due, and for this reason these fractions should be eliminated from medicinal creosote.

In further reference to the boiling range; U. S. P. creosote should not begin to boil below 200° C. for the reasons above stated. 95 per cent (instead of 80 per cent as now provided) should boil between 200° and 220° C., and the remainder not above 221° C. The boiling range of guaiacol and creosol, which should be the main constituents of a creosote of proper composition, is between these degrees of temperature. Phenols of higher boiling point than 221° C., which is the boiling point of pure creosol, are apt to contain the highly poisonous propyl guaiacol (coerulignol) and pyrogallol dimethyl ether. The test at present provided by the Pharmacopoeia allows 80 per cent to boil between 200° and 220° C. with no restriction on the final boiling point, therefore permitting as much as 20 per cent of dangerous impurities.

Cyclic and aliphatic alcohols and ketones, and furane derivatives, alcohols, aldehydes, acids and bases, are soluble in water, and their presence is not detected by the present U.S.P. test which is supposed to detect hydrocarbons and bases. The present test detects the hydrocarbons only, and the bases imperfectly, as most of the latter are soluble in water. Their presence can be detected only by heating the alkaline solution to the boiling point. Therefore, in testing for hydrocarbons and bases, in addition to making a perfectly clear solution, it should be stipulated that no odor should be developed on boiling the alkaline solution of creosote.

Coerulignol should be absolutely absent from creosote, as it is a very violent poison. It is, however, usually present and the present U. S. P. test is not sufficiently sensitive to detect it. By distilling off the lower boiling constituents of an ordinary creosote meeting the present U.S.P. standard, coerulignol can nearly always be detected. This is due to the fact that coerulignol is a high boiling phenol. To properly detect coerulignol, 100 Cc. should be used for distillation and after 90 Cc. have come over, the next few Cc. should be tested for coerulignol by the present test.

The present Pharmacopoeia provides no test for tarry acids and other constituents of wood tar which are present in practically all creosote that will meet the present standards.

Pure creosote or pure phenols may be shaken with sodium carbonate solution, and after standing a long time will remain colorless or only slightly colored. If the mixture becomes dark it shows the presence of impurities. Therefore, creosote should be mixed with an equal volume of 25 per cent sodium carbonate solution and shaken vigorously for fully five minutes. After shaking, the whole should be diluted with an equal volume of water without further shaking. On standing the liquid separates into two layers both of which should be colorless or only slightly colored.

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*Portion of a paper read before the A.Ph.A. at the meeting held in Washington, 1920.

Litmus Test: Dry litmus paper will not show an acid reaction with acid creosote except after a long time. Creosote that meets the present test of the Pharmacopoeia will very often show instantly the presence of acid when the litmus paper is previously moistened with water or alcohol. Therefore it should be stated that creosote should not affect the color of blue litmus paper previously moistened with distilled water.

It is well understood that the value of creosote is due to the guaiacol and creosol it contains, and the higher the percentage of the two substances, the better will be the article. The density of guaiacol and creosol at 25° C. is 1.133 and 1.084 respectively. The average density of the other phenols in creosote (mainly ethyl and dimethyl phenols which boil within the range of creosote U.S.P.) is 1.035. These are of no value medicinally, and merely dilute or displace the more valuable constituents. These figures on specific gravity show that the density of creosote U.S.P. as provided in the present revision, viz., 1.073, is entirely too low. Creosote of this gravity, even if the non-phenolic bodies (not detected by the present U.S.P. test) are absent, would contain only 43 per cent of guaiacol and creosol, if these were present in equal amounts. Therefore, the specific gravity of creosote at 25° C. should be not less than 1.080. Only by requiring a high specific gravity can the proper amounts of guaiacol and creosol be assured.

With proper care, any manufacturer of creosote can make a product that will meet the tests described. Creosote of this quality could be administered in much larger doses with correspondingly greater beneficial effect, while such a product would also serve as a much purer base for the salts and compounds of creosote that are in general use today.

Research Laboratories, H. J. Baker & Bro., New York.

CALCIUM CHLORIDE TO PREVENT FREEZING

A 20 per cent solution of calcium chloride in water jackets of automobile engines is effective and much less expensive than alcohol and other liquids used to prevent freezing, at any temperature higher than —9° F. (—23° C.).

It is possible to use Portland cement mortar in freezing weather by mixing calcium chloride with the cement in the proportion of 3 to 100. The calcium chloride retards the setting of the mortar and by reason of its low freezing point prevents the mortar from freezing. For the same reason calcium chloride can be used advantageously to keep ice from railroad frogs and switches, and for other similar purposes in which salt is used. Ground saturated with a heavy solution of calcium chloride will not freeze, a knowledge of which fact may at times be useful in making excavations in cold weather.

Value of Chemistry in Pharmacy

By H. BENSON FENWICK, PH.E.

OF WHAT value is a complete course in chemistry to a practicing pharmacist? This question has been asked many times by men from all ranks of pharmacy, but especially by the embryo drug clerks who have not yet advanced far in the great school of experience, as also by men in the wayside drug store who have become so imbedded in a rut that their minds have narrowed to a point of inertness, so far as live wire subjects are concerned.

Of course, chemistry exhibited by one's olfactory sense is not chemistry which will be of value to every pharmacist, but everyone has in his nose the only human organ whereby one may become cognizant of matter in an extraordinary state of attenuation. As an example of this, the ordinary counter man would never think of classifying the similarities and origin of fuller's earth, infusorial earth and kieselguhr, but the student of chemistry becomes so broad-minded that he is able to pick up quickly any bit of work which may be of a moment's interest to him.

The "near" student of chemistry may be able to rattle off parrot fashion a definition for differentiating between an organic and an inorganic compound, but how many are really able to understand and appreciate this definition in its fullest sense? By "near" student is meant the type of man who studies for the mere sake of passing the State board or college examination without giving thought of the value which might be derived from a practical knowledge of the subject. A man may know the theory of the science to perfection, but of what value will this theory be to him if he has no practical knowledge to work on?

It may be all very well for him to know the symbolic or graphic formula for cinchonidine dihydrobromide, but isn't it of more practical value for him to understand a simple method for the separation of quinine from the other alkaloids of cinchona, the incompatibilities of quinine, its action on metallic salts and organic compounds, such as acetylsalicylic acid (aspirin) which on long exposure to light and heat breaks up into acetic acid and salicylic acid which, in turn, acts on the quinine forming the poisonous substance known as quinotoxin?

The above is used, simply to illustrate a problem which might confront the prescriptionist at any time. It is the legal duty of the pharmacist to know whether there is a possibility of a poisonous substance being formed by the combination of the several ingredients, and whether by certain manipulations the formation of this harmful substance may be avoided. The practical knowledge thus needed to carry on this work properly can only be derived through a complete course in both organic and inorganic chemistry, as well as qualitative and quantitative analysis.

The practice of pharmacy is defined to consist of the practical application of physics and chemistry to medicine and their preparations and sufficient botany to appreciate the character of those vegetable drugs which enter into pharmaceutical preparations.

To illustrate: Take the chemistry of the Pharmacopoeia, since this book is used more than any other book by the pharmacist. A pharmacist should have a clear understanding of the standardization of official and non-official preparations, drugs and chemicals, all of which is obtained through the knowledge of their chemical constituents and the behavior of these with various reagents. This work makes up the great course of quantitative analysis, upon which the power of conviction by State inspection depends.

Citing one preparation merely to illustrate the type of work here discussed, a preparation whose strength is often ignored, namely spirit of nitrous ether, the U.S.P. requirement of which is that it shall contain not less than 3.5 per cent nor more than 4.5 per cent of ethyl nitrite. Noting the number of retailers who are warned every year by inspectors, simply because they overlook this feature of their duty, one can readily appreciate the value of assay work to the retail pharmacy, especially this assay, which only takes about twenty minutes when one is equipped with a practical type of a nitrometer like that of the Bradley instrument. Other preparations which might be named as illustrating the necessity of assay work are the potent tinctures of nux vomica and belladonna, Fowler's solution, tincture of iodine and even lime water.

It is essential that the retail pharmacist should have a working knowledge of the various methods of testing for purity and the detection of adulterations. This is gained through the study of qualitative analysis and organic chemistry. The importance of this is found mainly in buying, and is appreciated by one who has a large quantity of a certain chemical, for example, Epsom salt, offered to him at an exceptionally low market price. He may ask for a sample and if it comes up to the U.S.P. requirements, he is justified in buying, but if the salt is found to be adulterated, his money is saved from being used for material which later may cause him considerable annoyance.

The knowledge of chemistry plays an important part in the recognition of incompatibilities at the prescription counter. One who studies and appreciates the broadness of qualitative analysis can quickly recognize any chemical incompatibility that may confront him. One seldom appreciates a course of this kind, however, without the help of some knowledge of general inorganic chemistry. In order to be successful in this type of work one must also obtain practical laboratory training. To illustrate, in the manufacture of a certain medicinal compound or preparation, a chemical may be needed which will have a physiological action on the patient, yet must be inert chemically with the principal ingredients. A knowledge of chemistry is needed to aid in the selection of such a substance.

A knowledge of chemical incompatibilities is also valuable in cases of poisoning where the pharmacist is called upon to administer an antidote hastily. What he may or may not do may mean life or death to the unfortunate individual, and it is the pharmacist's moral as well as legal duty to be able to relieve the sufferer. Supposing for example, a child should happen to drink some formaldehyde by mistake; the pharmacist being called upon, and knowing the incompatibilities of formaldehyde, will immediately administer ammonia, which forms with formaldehyde the comparatively harmless substance hexamethylenamine.

Methods of manufacturing small quantities of chemicals for emergency purposes are very essential for the pharmacist to know. He should consider it his duty to be able, at all times, to dispense any chemical as far as possible. If, for instance, a certain salicylate is wanted which he has not in stock, he should be able to prepare it from the carbonate of the base and salicylic acid, both of which he is likely to have at hand. This knowledge gained by the study of chemistry often enables the pharmacist to manufacture various substances on a small scale which he may need at once. For instance, by precipitating the necessary mercurials in the wet way and incorporating them with the base, he can manufacture yellow oxide of mercury ointment or ammoniated mercury ointment very easily and at the same time prepare a very much smoother preparation than he would if he were to use the dry chemicals.

In clinical laboratory work, a field which is being more and more advanced by the retail pharmacist, it is obvious that a thorough knowledge of chemistry is needed to master this important and profitable department. It includes the analysis of urine, blood, gastric juice, feces, and bacteriological examination. The real physician appreciates the knowledge derived from an examination of the secretions and excretions, but not having the time nor the facilities for doing this kind of work himself, he is only too willing to turn the task over to one who is competent to make such examinations Naturally he turns to the pharmacist who proves himself worthy.

For the young man who is willing to work at a moderate salary, using the pick of knowledge while acquiring the shovel of experience, there are plenty of openings in pharmacy, and when he adds experience to the knowledge gained at college he can demand a good salary. But for those who come from college so full of theory that they can absorb nothing from actual experience there are no vacancies in modern pharmacy.

NEW CARBON MONOXIDE DETECTOR

The new detector of carbon monoxide gas, invented by Prof C. R. Hoover, is a delicate scientific instrument which records not only the presence of the monoxide but also the quantity of it in the air. It consists of a small glass tube filled with a mixture of an iodine salt, pumice stone and fuming sulphuric acid. When air is admitted to the tube the contents turn green, the depth of the color indicating the percentage of the poisonous gas. There is an indicator which records with scientific accuracy the exact proportion of the injurious vapor. The detector can be lowered by a string into shafts and then withdrawn for examination before anyone is permitted to enter.

Branding Potash in Colonial Days

An infant industry of Colonial days was the manufacture of potash from wood ashes, and many druggists engaged in buying the alkali from the makers and passing it on to the soapmaker or other manufacturer. The original potash of trade was and still is marketed in various grades as stone-ash, an impure mixture of caustic and carbonate; as potash, or black salts, and as the redissolved and refined material known as pearlash. As would appear from the following advertisement in the *New York Journal* or *General Advertiser* in 1769, the State provided a regulation for the branding of these products:

"WHEREAS I was appointed Inspector of Pot and Pearl-Ash this present year, and by a former Act of Assembly, passed in the year 1766, and to continue in full Force till the year 1770, That every Manufacturer or original Owner of any Pot-Ash or Pearl-Ash, made for Sale, shall, upon each Cask or Vessel, in which such Pot-Ash or Pearl-Ash shall be packed, cause the same to be branded with the first letter of his Christian Name, and with his Sirname at length, as also the name, of the Town or District in which such Pot-Ash or Pearl-Ash was made, under the penalty of £5.—I do hereby give Notice, to all the Makers of Pot and Pearl-Ash, that as there has lately been several Parcels sent to this City, without the Maker's Name, &c. being branded upon the Casks; That from this Time forward, I shall not put my Brand upon the Casks of Pot-Ash and Pearl-Ash, unless they are branded as the Act of Assembly directs. ISAAC SEARS, New York, 28th Aug., 1769.

Just what conditions the New York Assembly tried to correct by the passage of the act referred to in this notice does not now appear, but one can see that even then, some device was needed to show the origin of these products, a requirement that is much more comprehensively covered by our present day labeling laws.

Camphor Production in South China

WHILE Japan largely controls the camphor industry in the Orient there are some districts in China where the production of this article is free from outside influence. The Kwangtung Province, in South China, has become quite a producer of camphor, most of this being brought down the North and West Rivers. Many camphor trees are found in the vicinity of Wushek, according to an importer who recently returned from a trip through the Orient, and not only is camphor extracted there in a considerable quantity, but the large trees are cut up for planking and used for a variety of purposes. Camphor wood is used in the making of trunks, furniture and the large street shop signs that are a feature of Chinese cities.

Very primitive devices are used in the extraction of camphor and when it is desired to move a still to a more suitable location the work is carried on at a small expense. Usually the plant is housed under a simple matshed and consists of four or five native stoves of a large type, with no regular flue, upon which a simple still is placed. The still consists of a cauldron, such as is found in most homes in China, surmounted by a tall wooden structure that looks very much like a vase. There is an opening in the top of this into which the camphor wood chips are thrown, with a second opening a little lower down into which water is poured.

From the top of the vat runs a large bamboo pipe which conveys the vapor to the side of a small tank near the rest of the plant. In this tank are placed several tubs, with no bottoms, and movable lids, and the vapor is led through these in series, all the tubes being of bamboo. The camphor is deposited in the tubs by contact with cold water, the first one containing camphor oil, with the others giving up flowers of camphor, with a varying proportion of oil The still is kept going incessantly and the tubs are removed every few days and replaced with empty ones.

The camphor produced is fairly white, but contains considerable oil and is placed in a linen bag and allowed to drain, but even when sold contains oil in varying quantities. The natives are paid about $1.50 a catty for the product, the catty being the Chinese pound equal to about one and one third pounds avoirdupois.

Americans who have witnessed the process of distillation in the Kwantung Province express the opinion that the vapor that is finally released contains considerable recoverable camphor and that the chips withdrawn from the retort lack much of having their full properties extracted. It is believed that with modern grinding machinery and distilling apparatus the output of camphor could be increased to a marked degree, but whether its introduction, with the skilled labor necessary, would be a paying proposition, is another matter.

POISONING AND NEWSPAPER PUBLICITY

It is reported that the ancient Egyptians were skilled in securing the deadly prussic acid from the peach; Nicander (204 B.C.) described the use of snake venom, opium, henbane and other popular methods of seeking the Great Beyond. Socrates drank the hemlock, and Cleopatra succumbed to the sting of the asp. In more modern times arsenic became popular, reaching the height of refinement in the seventeenth century. At this period the infamous Tofana of Venice prepared vials of arsenious oxide for general sale, and herself concocted weird and unusual combinations for the secret use of arsenic by those high in political and ecclesiastical circles. In ancient days the fame of poisoner and poisons was spread by word of mouth. The newspapers establish the style in modern times. Everyone remembers when phenol—popularly called carbolic acid—was the deadly elixir of choice. The demise and the method were duly recorded in the daily press, thus increasing the popularity. Latterly, since the advent of mercuric chloride for certain domestic use, this poison is conveniently at hand. Not only is it convenient, but there exists for it an alluring propaganda. Thus, when a banker took mercuric chloride by mistake and lay dying, the anxious reporters hung around the lethal chamber ready to report each new development in the struggle. Through the tremendous notoriety given to this case, mercuric chloride was introduced as an available poison. It becomes one of the six best sellers. The styles in suicides and homicides, as even styles in dress, are influenced by newspaper publicity.—(*Medical News.*)

CONTROL OF PATENTS IN GREAT BRITAIN

Consul General Robert P Skinner, of London, recently reported to the U. S. Department of Commerce that the British Minister of Health had appointed a committee to advise on legislative and administrative measures to be taken for the control of the quality and authenticity of therapeutic substances or patent medicines offered for sale to the public, which can not be tested adequately by direct chemical means. Some of the most distinguished professional people of Great Britain have been named upon the committee, which will consider in the first instance the report of a select committee of the House of Commons on patent medicines. This committee issued a report in August, 1914, summarizing the legal position in regard to patent medicines as follows:

For all practical purposes British law is powerless to prevent any person from procuring any drug or taking any mixture, whether potent or without any therapeutical activity whatever (so long as it does not contain a scheduled poison), advertising it in any decent terms as a cure for any disease or ailment, recommending it by bogus testimonials and the inverted opinions and facsimile signatures of fictitious physicians, and selling it under any name he chooses, on the payment of a small stamp duty, for any price he can persuade a credulous public to pay.

The principal recommendations of the committee were:

That the administration of the law governing the advertisement and sale of patent and secret medicines be combined under one department of the State—the Ministry of Health when created, and until then the local government board.

That the manufacturers, proprietors and importers of such medicines be registered.

That an exact and complete analysis of every remedy, including medicated wines, with a full statement of the claims made for them, be furnished to the department.

That a special court or commission be constituted with power to permit or prohibit in the public interest, or on the ground of noncompliance with the law, the sale and advertisement of any remedy; and that the commission be a judicial authority, such as a metropolitan police magistrate sitting with two assessors, one appointed by the department and the other by some such body as the London Chamber of Commerce

That the advertisement and sale (except the sale by a doctor's order) of medicines purporting to cure the following diseases be prohibited: Cancer, consumption, lupus, deafness, diabetes, paralysis, fits, epilepsy, locomotor ataxia, Bright's disease, rupture (without operation or appliances).

That it be a breach of the law to use fictitious testimonials, or to promise to return money paid if a cure is not effected.

NOTES ON THE BRITISH PHARMACOPOEIA

Figures were presented by the Secretary of the Board of Trustees at the recent decennial Pharmacopoeial Convention held in Washington showing that 60,000 copies of the Ninth Revision of the United States Pharmacopoeia had been printed to date and of which 51,408 copies had been sold up to April 15 of the present year. In the June 26th issue of the "Pharmaceutical Journal' (London) appears a report of the Pharmacopoeia Committee to the General Council of Medical Education and Registration of the United Kingdom, which contains similar information relating to the publication and sale of the British Pharmacopoeia. The report is as follows:

The number of copies of the British Pharmacopoeia, 1914, which were sold by the publishers between November 22, 1919, and May 29, 1920, was 1,582. The number sold in the year ending May 29, 1920, was therefore 3,841. The total number sold since the date of publication is 36,852. The stock remaining in the hands of the publishers and their agents abroad is 1,773 copies. As the stock is now insufficient to meet the normal demand for a full year, the Committee have thought it expedient to arrange for the production of a further impression of 5,000 copies.

In each of the impressions after the first, certain typographical and other minor corrections have been made in the text. A complete list of these corrections, as embodied in the fourth issue (August, 1919), has been prepared for the Committee and printed in convenient form for insertion in the volume.

In the British Pharmacopoeia, 1914, page 22, the melting point of Acidum Salicylicum is given as "156° to 157°." The upper limit defined the standard of purity which was obtainable at the time the specification was drawn up. It appears that as the result of improvements in the manufacture of salicylic acid, indirectly due to advances in the purification of phenol during the war, a very pure acid, with a melting point approaching 159°, is now procurable commercially. Since 1914, the United States Pharmacopoeia, 1916, extended the prescribed range to 159°. It is undesirable that a purer preparation should be officially excluded in favor of a less pure; and the Committee accordingly propose at the next opportunity to make the corresponding correction, and to give "156° to 159°" as the permissible range of temperature for the melting-point of Acidum Salicylicum. The Pharmaceutical Editor and the Referee in Pharmacology concur in advising this change.

While the present Pharmacopoeia was in the course of preparation the Committee agreed to approach the Government with the suggestion that a public institution should be established for the official standardization of such remedies as serums, vaccines, and other preparations which could only be assayed effectively by other than chemical and physical methods. At the time the suggestion was not entertained by the authorities. The Minister of Health has now taken the matter up, and appointed a special committee to advise him on the legislative and administrative measures to be taken for the effective official control of such therapeutic substances. The Chairman has given evidence before it regarding the views held by the Pharmacopoeia Committee, and the manner in which officially recognized standards of potency, etc., might in the case of serums, vaccines, etc., be hereafter embodied in the Pharmacopoeia.

RECORD PURCHASE OF RADIUM

The State of New York, according to newspaper announcement, recently consummated the purchase of two and one-quarter grams of radium, the largest commercial transaction of its kind ever made, and the first purchase of radium by any State for a purpose of social utility. The acquisition of the radium was made possible through an appropriation of $225,000 by the 1920 Legislature.

The radium will be used for research work in behalf of the New York State Institute for Malignant Disease, under the direction of Dr. H. R. Gaylord and his staff of Buffalo. It is an American product mined in the Colorado desert, the quantity purchased in the above transaction being extracted from 625 tons of carnotite ore, brought across the continent in twenty-one cars. An equal bulk of coal and chemicals was employed to reduce the ore to a concentrated mass of two and one-quarter grams.

EPITOME OF RULINGS AND REGULATIONS

Abstract of Requirements Which Must be Observed by Retail Druggists in the Traffic of Narcotics and Liquors Compiled by the Kings Co. Pharmaceutical Society for Its Members

The N. F. and U. S. P. Propaganda Committee of the Kings County Pharmaceutical Society recently completed for the use of its members a compilation of the principal points in all of the latest and most important rulings and regulations which relate to retail druggists in the traffic of narcotics and liquors. This tabulation presents these requirements in convenient form for reference, and is here reprinted, as follows:

NARCOTICS

No. 1. If a retail druggist sells Narcotics to physicians or dentists in broken packages he becomes a Manufacturer and must register as such and pay the manufacturers fee of $24.00 per year.
The druggist may, however, upon presentation of an official order blank sell a solution of narcotic in an amount not to exceed one fluid ounce to a physician or dentist for use in their office practice.

No. 2. If a druggist sell on official order blanks in original or unbroken packages he must take out a licence as a wholesaler and pay a fee of $12.00.
An occasional sale of an original stamped package by one retailer to another may be made without the necessity of a wholesalers license.

No. 3. If he sells on ℞ only and in broken packages he takes out a license as a retailer and pays the fee of $6.00 per year.

No. 4. The partial filling of a ℞ is not permitted, under any circumstances.

No. 5. Prescriptions by telephone cannot be filled.

No. 6. Each narcotic ℞ must show on the back thereof the signature and address of the person to whom the medicine is delivered.

No. 7. The label must show the name and registry number of the Pharmacist, the serial number of the ℞, the name and address of the patient, and the name, address and registry Number of the Physician who wrote the ℞.

No. 8 Druggists must register in Class 5 as dealers in exempted preparations and in ordering such preparations must give their registry number.

No. 9. They must keep a record of all such preparations purchased and sold.
The record of those sold must gives the quantity, date, name and address of the PURCHASER, signed by same.

LIQUORS

No. 1. Pharmacists should keep a record of the amount of the eighteen official preparations designated as liquors by the Internal Revenue Department that they manufacture or purchase and the disposition of the same

No. 2. The label on each preparation should show the quantity, name of manufacturer and date made or received.

No. 3. A Retail Liquor Dealers License is not necessary in order to dispense these preparations on ℞ but they cannot be sold without a ℞.

No. 4. All prescriptions for "liquors" must be written on official ℞ blanks which is form 1403.

No. 5. It is illegal for a pharmacist to compound a ℞ for "liquors" written on any other ℞ blank except in emergency cases and those must be scrutinized carefully.

No. 6. All prescriptions for "liquors" when filled must be marked "cancelled" over the signature of the pharmacist, the date of filling also must be written and ℞ must be kept on separate file and full report of the prescriptions compounded the preceding month made before the 10th of each month on form provided by the Department.

No. 7. This report must show name and quantity of the liquor, name and address of the patient and name and address of the Physician and total amount delivered to each patient.

No. 8. The report must also show all "liquors" purchased and the disposition made of them.

No. 9. Reports must be made to Federal Prohibition Director.

No. 10. ℞ for liquors must be compounded but once and must not be for a quantity exceeding one pint for any one person in a period of ten days.

No. 11. Physicians who are not specially registered to prescribe cannot write a ℞ for "liquor" and a pharmacist should not compound ℞s. written by physicians that are not registered.

No. 12. Toilet articles such as Bay Rum, hair tonics, etc., must be sufficiently medicated to render them unfit for beverage purposes.

No. 13. The Internal Revenue Department has approved the following medicating or modifying agents:
1. Tartar emetic 4 grains to one pint.
2. Quinine alkaloid or salt 2 grains to each ounce.
3. Resorcin or Salicylic acid 5 grains to ounce.
4. Cinchonidine 2 grains to each ounce
5. Sodium Salicylate 5 grains to each fluid ounce.

No. 14. All such preparations must be labeled for external use only.

No. 15. Any of these preparations in stock when the law went into effect should now bear a label "For External Use Only" and one stating that they were in stock when the law went into effect.

No. 16. Denatured alcohol labels must contain under the skull and bones symbol the word "Poison" in large letters and the following statement:
"Completely denatured alcohol is a violent poison. It cannot be applied externally to human or animal tissue without serious injurious results. It cannot be taken internally without inducing blindness and general physical decay, ultimately resulting in death."
N. B. This applies to "denatured" and not to "medicated" alcohol.

KEEP RECORDS FOR MONTHLY ALCOHOL REPORT

No. 17. Prohibition Mimeograph Regulations 45 has been variously construed. Many thought that it required monthly reports by users of alcohol in manufacturing and compounding beginning with April, 1920, so as to cover the month of March preceding. The Internal Revenue Bureau, however, states that the first monthly report is required on or before May 5th next, covering the month of April. Form 1421 must be used by all persons who hold permits on Form 1405 and Form 737. It will be necessary to keep records of users of alcohol during the month of April and every succeeding month to be able to render the reports required by the department.

MEDICINAL PREPARATIONS

No. 18. On Form 1421 must be stated the quantity of alcohol used, in wine or proof gallons, in manufacturing or compounding alcoholic medicinal preparations unfit for beverage use, and the quantity of liquor other than alcohol if used for such purposes, in wine gallons. On the same form must also be stated the quantity of alcohol, in wine or proof gallons, used in manufacturing or compounding alcoholic medicinal preparations fit for beverage purposes, in wine gallons. The permit holder must certify that he is the lawful holder of a permit, giving its serial number, and that he used the quantities of alcohol and other liquor in the manufacturing and compounding the articles enumerated in his report in accordance, with the terms of his permit and the National Prohibition Act and the regulations for its enforcement.
Alcohol used in making medicated alcohol should be recorded under Antiseptic Solutions, Etc

BARBERS' SUPPLIES, PERFUMERY, ETC.

No. 19. On form 1421 must be reported monthly the quantity of alcohol, in wine or proof gallons, used in manufacturing or compounding antiseptic solutions, toilet preparations and perfumes unfit for beverage use, and the quantity of liquor other than alcohol if used for such purpose, in wine gallons. It should be remembered that in making applications for permit to use alcohol in manufacturing barbers' supplies, perfumery or other toilet preparations, the rule is such that each preparation must contain not less than one ounce of essential oil to the gallon. Applications for permits are being held up by the department because they fail to give percentage of essential oils, or show that less is used than is required.

FLAVORING EXTRACTS AND SYRUPS

No. 20. On form 1421 must also be reported monthly the quantity of alcohol in wine or proof gallon, used in manufacturing flavoring extracts and syrups unfit for beverage use, and the quantity of liquor other than alcohol used for such purposes, in wine gallon. As stated, regulation 45 requires monthly reports to be rendered The State Prohibition Director, or local revenue collector where there is no State director, beginning with April, 1920. This means the first monthly report will have to be rendered on or before May 5th for alcohol used in the preceding month. Failure to make these monthly reports, or the making of false reports, will subject permit holders to the revocation of their permit.

OTHER ALCOHOL REPORTS

No. 21. On form 1421 monthly reports must also be made giving the quantity of tax paid alcohol consumed in laboratory, manufacturing and technical use. The instructions to prohibition and revenue officers are furnished on form 1421 and should be read by all non-beverage alcohol permit holders.

No. 22. Failure to make the above reports will result in the revocation of permits.

No. 23. The reports must be made in triplicate: One copy to be retained by the permit holder and the other two copies forwarded to the State Prohibition Director.

MEDICATED ALCOHOL

No. 24. The following formulas are prescribed for the preparation of Medicated Alcohol which may be sold in quantities not exceeding one pint with a poison label. (The Conference, at its meeting of March 23rd, voted to recommend the adoption of Formula No. 5 to the members of the affiliated organizations.)
1. Bichloride of mercury, 1 part; alcohol 2,000 parts.
2. Bichloride of mercury, 0.8 gram; HCl 60 c.c., alcohol 64 c.c. water 300 c.c.
3. Bichloride of mercury, 1½ grains, HCl 2 drams, alcohol 4 oz.
4. Formaldehyde 2 parts, Glycerin 2 parts, alcohol 96 parts.
5. Carbolic acid, 1 dram; tannic acid, 1 dram; alcohol, 1 pt.; water, 1 pt.
6. Alum ½ oz., formaldehyde 2 drams camphor 1 oz., alcohol and water, each 1 pint.
7. Liquor Cresolis comp. (U.S.P.) 10 c.c., alcohol 1,000 c.c.

No. 25. Pharmacists are limited to 100 gallons of distilled spirits (including non-beverage alcohol) in any 90 days. If larger quantities are required, a special permit must be secured.

No. 26. Physicians can secure but 100 Official prescription blanks in a period of ninety days; except by special request. T. D. 3023. All prescriptions for liquor and narcotics must be written in ink.

No. 27. Regulation No. 60 provides that the head of each Ecclesiastical jurisdiction must approve all applications for Sacramental wines made by ministers, priests, etc.

No. 28. T. D. 3020 gives the retail druggist, when applying for renewal of his registration, under the Harrison Act, the privilege of filing an inventory taken at any date between January 1st and July 1st Your application must positively be filed before July 1st. or a penalty will be imposed. Your inventory must include all Narcotics except these that are exempt under Section 6. Retail druggists must register under Class 3 and Class 5. Applications must be made on form 678. These must be signed by the applicant and acknowledged before two witnesses. Separate applications must be made for each class under which registration is desired. A druggist who does not register before July 1st, does not have legal possession of Narcotics and is subject to severe penalty. The inventory must be on form 713 and in duplicate. The original should be placed on file and the duplicate mailed with the application for registration. Both these must be sworn to.

SOFT DRINK TAX MUST BE PAID

In its nation-wide drive for the collection of delinquent sales and other miscellaneous taxes the Bureau of Internal Revenue is devoting special attention to the collection of the soft drink tax. Reports from certain districts are that many dealers are failing to account for this tax.

Instructions have been sent to collectors of internal revenue to assert penalties in all cases where there is evidence of willful attempt to evade payment. The maximum penalty for such offense is a fine of not more than $10,000, or one year's imprisonment, or both. Whether offers of compromise will be considered, or recommendation made for prosecution will depend upon the facts disclosed in each particular case.

Collectors are advised also to note that persons who knowingly appropriate to their own use taxes which it is their duty to collect and return to the government are liable to prosecution under section 47 of the criminal code. It is not necessary that the intent be to appropriate money so as to forever exclude the government but the mere use of the money with the knowledge that it belongs to the United States constitutes the fraudulent appropriation.

The soft drink tax of 1 cent for each 10 cents or fraction thereof of the amount paid applies to all sales of soft drinks, ice cream, ice cream sundaes and similar articles of food and drink in an ice cream parlor or similar place of business if sold for consumption in or in proximity to the place of sale. All sales from soda fountains of the articles mentioned are taxable, regardless of the nature of the place of business in which the fountain is located. In these two instances the tax applies whether or not the sale is accompanied by the purchase of substantial articles of food or drink as part of a meal.

If the sale is made at a hotel, restaurant, cafeteria, lunch room or club house as part of a meal, and the articles are not sold from a soda fountain, no tax is due. Sales at such places when made separately and not as part of a meal are taxable.

If several articles are purchased at the same time, the total price paid is the unit for computing the tax. Thus, if a purchaser orders two sodas each selling for 15 cents, the total tax is 3 cents, and not 4 cents.

Regulations governing the collection of the soft drink tax require that daily records be kept showing the number of sales and the tax thereon. In case the vendor does not use an adequate cash register or check system from which records may be kept the regulations require that a separate receptacle shall be used to retain the tax collections.

Vendors are required to make on or before the last day of the month return and payment of the tax collected during the preceding month. The penalty for failure to make a return and pay on time is a fine of not more than $1,000. For wilful refusal to truly account for and pay over the tax, the penalty is a fine of not more than $10,000, or one year's imprisonment, or both.

The Bureau is making a drive not only for the collection of delinquent soft drink taxes, but the so-called luxury tax, the tax on rentals earned from the lease or license of motion picture films, the admission taxes, the manufacturer's tax on jewelry and works of art, and the tax on toilet articles and proprietary medicines. Following a course of instruction at Washington, Commissioner William M. Williams has assigned to the work a large force of special revenue officers. These men compose a flying squadron, which will visit every large city in the United States, cooperating with assistant supervisors and field deputies.

The drive is under the immediate supervision of collectors of internal revenue.

METHODS OF ELIMINATING HOUSEFLIES

Flies are the most dangerous insects known to man, and no one has been more pronounced in his campaign against the pests than Dr. Frank J. Monaghan, acting commissioner of the Department of Health of New York City. In a recent discussion of the subject he enumerated the following methods for the elimination of flies:

The use of some of the sticky fly papers.

The use of poison fly papers which may be prepared by adding three teaspoonsful of formalin to a pint of water, placed in a glass, inverted upon a piece of blotting paper or a plate with a match or toothpick under the glass; or three teaspoonsful of sodium salicylate (powder) dissolved in a pint of water and placed in a glass as above noted.

The spraying of oil of lavender mixed with an equal quantity of water around the room.

The furnishing of a bait of one tablespoonful of cream, one of ground black pepper and one of brown sugar, placed in a saucer at a window with room darkened.

The closing up of the room and the burning of pyrethrum powder therein, and the sweeping up and burning or otherwise destroying of the flies which have been stupified by the fumes.

The use of fly traps with a shallow pan beneath containing a bait of milk, molasses and water, or one part brown sugar to four parts water.

Proper screening of doors and windows to keep flies out of the house.

Swatting the fly.

Any campaign for the elimination of flies should primarily require the prevention of breeding and the removal of fly breeding material. To this end all stable refuse should be removed from the stable daily and stable thoroughly cleaned and flushed down with water. When such manure cannot be regularly removed it should be sprinkled with borax and water in the proportion of one pound of borax to twelve bushels of manure.

All garbage should be kept in tightly covered, metal containers and removed from the premises at frequent intervals.

All outdoor vaults, etc., should be properly screened and protected so that flies cannot have access thereto and the contents may be treated with lye, chloride of lime, copperas (sulphate of iron) dissolved in water, crude carbolic acid.

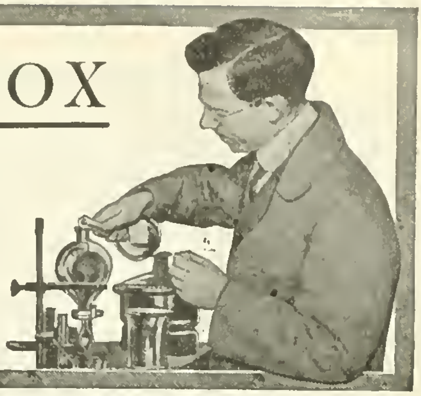
The National Safety Council is asking the chemical and dye industries to encourage the use of the word "flammable." The meaning of "inflammable" has so often been misinterpreted, that some persons have thought of the first two letters as the prefix "in," meaning "not," or "non," as in "inactive" or "incontrollable". Flammable is shorter, more definite, and cannot be misunderstood, says the Safety Council, and announces the negative of "flammable" is "nonflammable."

THE QUESTION BOX

The "How to Do It" Department

CONDUCTED BY PHARMACEUTICAL EXPERTS

For the benefit of ERA Subscribers



Clarifying Extract of Witch Hazel

(B. F. M.)—"In my absence we received a shipment of drugs which included a ten gallon keg of extract of witch hazel, which came in a leaky condition. The clerk emptied the extract into large tin cans, where it remained for nearly a week. The extract looked O.K. when taken from the can, but it soon throws down a rusty precipitate in the bottles. I have filtered it and find that it looks good, but in a few days it throws down some more of the same kind of precipitate. I have filtered it through sand and through filter paper, yet the filtered liquid continues to thrown down a precipitate. I have examined the tin cans as far as possible, but I can see no rust in them, and this has led me to think that possibly the precipitation was not due to rust at all but that something was wrong with the witch hazel. It there anything I can do to save the extract?"

Some years ago a correspondent recommended as a clarification method, the addition of a solution of gelatin to the extract of witch hazel, then allow the mixture to stand a few hours and filter. Filtration through fuller's earth has also been recommended for clarifying darkened witch hazel, but we have had no practical experience with the method to pass upon its value for the purpose desired. It might be worth a trial. Relating to this subject, it is well known that a dark precipitation is likely to occur in extracts of witch hazel distilled from the green brush. The manufacturers of various proprietary brands state on their labels that this precipitation is a property of the shrub; that it exercises no bad influence whatever, and cannot be removed without materially injuring the quality of the extract. They state that the sediment or precipitate may generally be removed by standing the barrel or package containing the extract on end, letting it thoroughly settle for a week or two, and then decant, when the extract will be entirely clear and free from the precipitate. In this way all of the contents may be removed except the last two or three gallons, which may be carefully filtered. We suggest that you try this method.

What is the Meaning of the Word "Pitch?"

(Dr. R. M. F.)—"Kindly favor me by giving the meaning of the word 'pitch,' in the query column of your next issue?"

Webster gives three definitionse for the noun "pitch," as follows: 1, a black or dark-colored viscous substance obtained as a residue in distilling coal tar, wood tar, bone oil, etc., and occurring naturally as asphalt. Artificial pitch, like asphalt, consists chiefly of hydrocarbons, but varies much in composition and consistency according to the way it is produced. It is widely used in manufacturing fuel, varnishes, roofing paper, etc., for calking seams, as a preservative coating, for street paving, etc.; 2, any of the various bituminous substances;—usually with a limiting word; as mineral pitch, Jew's pitch, etc.; 3, the resin, often of medicinal value, obtained from certain coniferous trees; as Canada, or hemlock, pitch; Burgundy, or white, pitch, etc.

From these definitions it will be seen that in its application the word is not restricted to a single substance. Pitch, or black pitch, variously known as *Pix navalis*, *Pix nigra*, *Resina nigra*, *Pix solida*, *Resina pini empyreumatica*, etc., is obtained by evaporating or distilling off the more volatile constituents of wood tar, the residue being a black, firm substance, having a faint, tarry odor, a brilliant fracture, softening by the warmth of the hand, melting in boiling water. It is soluble in alcohol, and in alkaline solutions, and consists of empyreumatic resin and colophony (rosin). Pitch left after the evaporation of tar was formerly official in some of the Pharmacopoeias. For the distinctions between coal-tar pitch, vegetable pitch (black or marine pitch), petroleum pitch, stearine pitch, etc., you should consult some good reference work on industrial chemistry.

Green Ink

(Manager)—Various formulas are extant for the preparation of green ink. Lehner ("Ink Manufacture") stating that the best mixtures are picric acid with either indigo-carmine or solution of Prussian blue. He gives the following formula under the title of "Stein's Green Ink;"

(a)

Indigo-carmine	120
Gum	200
Water	3000

(b)

Picric acid	15
Boiling water	720

Make solutions *a* and *b* separately, and then mix them.

Another formula from the same source is employed for making "Green Chrome Ink," which is said to possess not only a lively green color, but to be very durable;

Potassium bichromate	10
Hydrochloric acid	10
Spirit	10
Gum	10
Water	30

Mix the potassium bichromate, finely powdered, with the acid, and let it stand for an hour. Into the red solution thus obtained the spirit is slowly poured, with constant stirring. The reaction is very vigorous, and the liquid froths and gets very hot, and gradually turns to a dark green. If the action gets too violent, a little cold water is put in. To avoid boiling over, it is best to add the spirit in portions, waiting till the frothing after each addition is over before adding the next. The next step is to add carbonate of soda till all effervescence has ceased and a greenish precipitate just begins to form. The liquid is then left covered up for a week, filtered from the salts which have crystallized out, and diluted to the desired color. Finally the gum is dissolved in it. This ink is claimed to penetrate the paper deeply, and gives green writing which is absolutely permanent and is very difficult to efface.

Squill as a Rat Poison

(F. R. S.)—Squill has long been used as a rat poison in France, a formula taken from the Era Formulary directing a stiff mass to be made with wheat meal. 2 parts of squill, bruised, and 3 parts of finely-chopped bacon. Bake into small cakes, and put down for the rats to eat.

A writer in the *Chemist and Druggist* some months ago stated that the powdered squill may without difficulty be incorporated into a mixture of barium carbonate with tallow and dripping, and these ingredients are in fact to be found mixed together in one proprietary poison quite recently placed on the market. Another mixture contains, in addition to the liquid extract of squill, a small proportion of hydrochloric acid and a preservative such as salicylic acid. A well-known Continental way of preparing a bait is to bake a pancake—to which 20 per cent of finely chopped squill is added, either to the batter before frying, which is simpler, or placed between two layers of pancake after frying. When cold the pancake should be cut in pieces of about one-inch square and laid in the rat runs or holes. If a liquid extract of red squill be used, a suitable bait can be made by mixing one pint of the liquid extract with a similar quantity of sweetened milk or of a savory soup or broth, and mixing to a paste with three or four pounds of bread or flaked oats; or the liquid extract may be mixed in suitable proportions with biscuit powder, and the mixture flavored in any manner which suggests itself.

As a rat poison, the United States Department of Agriculture has emphasized the value of barium carbonate. A convenient bait may be prepared by mixing one part of barium carbonate with three parts of oatmeal, mixed to a fairly stiff dough with water, and scented if desired. Here are two additional formulas;

(1)

Barium carbonate	6 ounces
Meal	16 ounces
Dripping	4 ounces
Salt	½ ounce

This makes 1,000 baits.

(2)

Barium carbonate	4 ounces
Biscuit meal, or plain meal	4 ounces
Oil of aniseed	5 drops

Mix with fat to a paste, and lay in pieces the size of a hazel-nut.

Benzoic and Boric Acid in a Prescription

(E. W. J.)—"We have the following prescription, and have tried several different ways of putting it together and to make it stay in solution. So far we have failed in our attempts. Will you inform us the correct way of compounding the prescription, if there is any?"

Benzoic acid	4 drams
Boric acid	4 drams
Alcohol	4 drams
Tincture of hyoscyamus	2 drams
Syrup of wild cherry	2 ounces
Syrup of orange	1½ ounces
Distilled water, q.s. to make	6 ounces

Directions: Two teaspoonfuls every 4 hours, followed by a glass of water.

The difficulty here is due to the fact that the quantities of benzoic acid and boric acid prescribed are insoluble in the liquids (alcohol, water, etc.) required to make up the volume of the prescription. This is readily seen by reference to the Pharmacopoeia, which states that 1 gram of benzoic acid dissolves in 275 mils of water or 2.3 mils of alcohol, while a like quantity of boric acid requires 18 mils of water or 18 mils of alcohol to effect solution. Inspection of the prescription shows that neither of these solvents is present in sufficient quantity to dissolve the acids. It is possible that the addition of sodium citrate might increase the solubility of the acids in the above mixture, but no such addition should be made without consulting the prescriber, who should be informed of the difficulty.

Nail Cosmetic

(E. S. M.)—Try the following formula which, according to a London contemporary, will produce a cream that will prevent the skin round the nails from becoming hard and ragged; White soft paraffin, 960 grains; anhydrous wool fat, 480 grains; spermaceti, 220 grains; white beeswax, 150 grains; coumarin, 5 grains. Melt the spermaceti and wax in the soft paraffin, add the wool fat and coumarin, and allow to cool without stirring. To apply, the skin should be first softened by washing with warm water and soap, using a piece of pumice stone to smooth any rough bits, then the cream can be put on and a little cautiously worked with an orange stick between the nail and the skin.

For a nail lubricant and polish the following is also recommended; Amber resin, 48 grains; oil of lavender, 4 drops; beeswax, 24 grains; linseed oil 108 grains. Melt the resin and wax in the linseed oil, add the oil of lavender, and allow to cool without stirring. Some of this rubbed into the nails preserves them from becoming rough and dry or cracky. It improves the brightness of the nails if a polisher be employed an hour or two after the lubricant has been applied.

For a nail bleach, the following has been recommended; Tartaric acid, 1 dram; tincture of myrrh, 1 fl. dram; cologne water, 2 fl. drams; rose water, to make 2 fl. ounces. Dissolve the tartaric acid in the mixture of the three liquids. Add talcum and filter clear. Color with a trace of carmine solution or a water-soluble coal-tar dye. This solution is said to be preferred to the usual peroxide lotions which have the reputation of rendering the nails brittle.

Mustard Oil Salve

(H. L.)—The following formulas are taken from our scrap book;

(1)

Benzoinated lard	3 ounces
White petrolatum	1 ounce
Camphor	15 grains
Menthol	30 grains
Volatile oil of mustard (artif.)	60 minims

Melt the lard and petrolatum together and dissolve the camphor and menthol in the mixture. When cool, incorporate the volatile oil of mustard.

(2)

White petrolatum	350 grains
Paraffin	60 grains
Menthol	10 grains
Camphor	15 grains
Volatile oil of mustard	20 minims

Melt the petrolatum and paraffin together and allow to cool. Then mix the other ingredients together and incorporate in the mixture of petrolatum and paraffin.

The volatile oil of mustard has been employed as a substitute for the mustard plaster. For this purpose one part may be mixed with sixty parts of alcohol, and the mixture sprinkled, not too thickly, on spiline or muslin, covered with waxed paper. Diluted with olive oil it may be similarly employed, and as a stimulating liniment.

The Progress of Pharmacy

Coumarin in Mellitis Melissophyllum—

According to Guerin and Goris, coumarin has been so far found in thirty plants belonging to the most widely varied families. Without mentioning native species, it has been long known that it is to this principle that, after drying, the sweet-scented vernal grass (*Anthoxanthum odoratum*) the melillots and the fragrant woodruff (*Asperula odorata*) owe their agreeable perfume. With the Labiatæ, coumarin has only been mentioned in the essence of the officinal lavender flowers The plant examined by Guerin and Goris the results of which they reported to the Academy of Sciences last May, belongs to the same family; it is the *Melittis melissophyllum L.*, common in the woods of the Paris region, and whose large flowers with pure white corolla spotted with reddish purple are the admiration of all beholders.

In the wild state the melitte does not give any odor of coumarin, but under the influence of chloroform and ether, this odor develops at the end of two or three hours and becomes stronger still, after drying the leaves subjected to this treatment, and which take on under these conditions, a deep green tint. It is only after several days that the odor can be detected in the leaves which have not been treated with chloroform or ether. Since the leaves of *Melittis melissophyllum L.* contain an emulsin, the anesthetics used in the experiment should have caused the contact of a ferment and another body similar to a glucoside, which by reduplication, has set at liberty some coumarin, which the authors have been able to extract and to observe. The appearance of the fragrant principle would be, in reality, the result of a real plasmolysis.—*(L'Union Pharm.)*

Influence of Calcium on Glycosuria—

The fact that an injection of chloride of calcium causes the disappearance of incipient glycosuria induced by the ions of sodium, and the antagonism that exists between the ions of sodium and the diatomic ions of calcium, has led M. Procas, of Athens, to administer calcium to certain diabetic patients. He gives preference to lime water, since its alkalinity may serve to neutralize acidity, the lime water proving preferable to counteract the acidity of the sodium bicarbonate which saturates the organism with carbonic acid. From the experiences reported, the author decides on the excellent action of lime water to cause a diminution or disappearance of sugar in diabetic patients. —*(L'Union Pharm.)*

Notes on Ceylon Cinnamon—

Cinnamon, the cultivation of which appears to be declining in Ceylon, was a spice of great repute in very early days. Hanbury, in his Pharmacographia states that it was eagerly sought after by the ancients, in all their Oriental voyages, but that in those days no cinnamon was obtained from Ceylon. "In the pages of no author, European or Asiatic, from the earliest ages to the close of the thirteenth century is there the remotest allusion to cinnamon as an indigenous production, or even as an article of commerce in Ceylon." According to Hanbury, in 1275, an Arab writer, Kazwini by name, mentions Ceylon cinnamon, while an Italian missionary who had visited India, writing in 1292 or 1293, describes the cinnamon tree, and says that great store of its bark "is carried forth from the island which is near by Malabar." The Portuguese discovered Ceylon in 1505, and occupied the island in 1536, "chiefly for the sake of the cinnamon." From 1796 to 1833 the East India Company held the monopoly of the Ceylon cinnamon trade, and during their tenure did much to increase the output of bark. Previous to this the Dutch had succeeded the Portuguese as controllers of the spice, and had begun to cultivate the tree, instead of drawing entirely upon the cinnamon growing wild in the forests. It is recorded that they soon were able to supply from their cultivated cinnamon groves sufficient of the bark to supply the entire European demand, and that their monopolists would burn the surplus rather than let it glut the market, and so reduce the price. Now that coffee planting and other enterprises have displaced cinnamon cultivation in the "isle of spices," the exports of bark have very greatly diminished, but there is a possibility of the trade reviving.—*(Ind. and East. Dr)*

Licorice Industry in Sicily—

Licorice root forms an important minor article of Italian export to the United States. Figures covering prepared licorice are not available, but shipments of licorice root for the year 1919 amounted to 1,304 metric tons to the United States alone, out of a total exportation of 1,899 metric tons. The bulk of the Italian licorice is grown in Calabria, and the prepared licorice is manufactured in the city of Messina. The bulk of the manufactured article is exported to England and to Denmark. The macerated pulp fiber left over from the process of production is now employed as a fertilizer, but experiments are being made for the conversion of this fiber into a tough quality of wrapping paper.

Bactericidal Activity of Certain Vegetable Juices—

C. Sarti reports a series of experiments made with the juices of onions and of garlic bulbs, and with the fruit juices of the lemon, orange and mandarin orange, in the effort to determine their bactericidal activity. The bactericidal power was determined by immersing silk threads contaminated with certain pathogenic organisms in these juices under similar conditions, and then instituting cultivation tests. All the juices possess a certain bactericidal power. Garlic and lemon were the most active, the bactericidal power of orange and of onion juice was less marked; mandarin orange was the least active juice. The onion and garlic juices evidently owe their bactericidal properties to the sulphur-bearing essential oils they contain. When these were removed by shaking out with ether, the residual juices had no germicidal action. In the same way the activity of the fruit juices seems to depend mainly on the amount of the free acid present. When this is neutralized the juices cease to exert any bactericidal power.—*(Pharm. Journ.)*

Detecting Decomposition Products in Chloroform—

Utz recommends the benzidine test described by Budde for the detection of decomposition products in chloroform, particularly those due to the action of sunlight. A solution of a small quantity of benzidine is made in 10 cc. of the sample; if the chloroform is pure, no change takes place on allowing the solution to stand in the dark for 24 hours; if chloral is present, a faint pink coloration develops, which takes on a bluish tint after some time. If phosgene, hydrochloric acid, or chlorine be present, the solution at once turns turbid, and if the amount of these impurities be large, a precipitate may form.—*(Pharm. Zentralh.)*

Solubility of Theobromine—

According to R. V. Wadsworth, the high solubilities for theobromine recorded by Mitscherlich appear to have been due to the presence of caffeine as an impurity. The solubility of the pure alkaloid in various solvents is as follows: Ether at 15.5° C., 0.003; at boiling point, 0.003; trichloroethylene at 15.5° C., 0.020; at boiling point, 0.030;

chloroform, 0.06 and 0.07; water, 0.06 and 0.70; and tetrachlorethane, 0.090 and 0.870%.—(*Analyst*)

Medicinal Plants in the Italian Forests—

In Italy, the General Forestry Department has instructed the association for the development of the culture of medicinal plants to undertake researches to determine the wealth of medicinal plants in the forests that are the property of the State. With this object in view, representatives of the association visited the forests mentioned and have published a table showing the absence, presence, or abundance of eighty-eight medicinal species in the several forests, as follows: Arnica (*Arnica Montana*) could be gathered in great quantity in the forest of Cansiglio; valerian (*Valeriana officinalis*) abounds in Cansiglio and Sila; conium (*Conium maculatum*), in Monticchio and Gallipoli-Cagonato; male fern (*Polystichum Filix-mas*), in all of the forests of the zone of beech and pine; burdock (*Artium Lappa*), black elder (*Sambucus nigra*), hyssop or St. John's wort (*Hypericum perforatum*), germander (*Teucrium chamaedrys*), raspberry (*Rubus idaeus*), common mallow (*Malva sylvestris*), wild thyme (*Thymus serpyllum*), woodruff or queen of the woods (*Asperula odorata*), medicinal or common speedwell (*Veronica officinalis*), mullein (*Verbascum thapsus*) and other species besides are found in all of the forests of State domain. Belladonna (*Atropa belladonna*) could be gathered in a number of the forests. Experiments by the association also show that belladonna and digitalis could be easily propagated by seeds in the forests without requiring real cultivation.—(*Farmacia*)

Detecting Abnormal Milks—

A method is much needed in official milk inspection to enable the inspector to select suspicious samples quickly and then take samples of such milks for further detailed examination in the laboratory. Such a method has been worked out in the New York Agricultural Experiment Station, one which depends upon the effect of milk upon a solution of a dye called brom-cresol purple. One drop of this solution is added to 3 cc. of milk, and the color is observed. Normal fresh milk gives a grayish-blue color. The production of a lighter or darker color serves to awaken suspicion in regard to the normal character of the milk. The color is made lighter by acids, acid salts, formaldehyde and also by heating above the usual point of pasteurization. The color becomes deeper blue in the case of milk from diseased udders, watered milk, skimmed milk, and milk containing added alkaline salts. In the inspection of milk, a sample is taken for further detailed examination in the laboratory, if the color is sufficiently lighter or darker than normal to indicate the probability of some abnormal condition. The method has been applied to about 600 samples of market milk with satisfactory results.—(*Report N. Y. Agri. Exp. Sta.*)

Kaolin a Substitute for Bismuth Subnitrate—

Since the war, the difficulty in obtaining a suitable bismuth subnitrate and the increasing price of all salts of bismuth made their use impracticable in an important list of diseases. These conditions led M. G. Hayem to seek a substitute for these medicaments which he has found in kaolin. He tried kaolin for the first time in 1915 as a substitute for bismuth subnitrate in a case of ulcer, and the results of the treatment having been favorable, he extended its use to all cases in which he habitually prescribed bismuth subnitrate. He gives it in the same doses and under the same conditions as bismuth, that is to say up to 20 grams. But as it is less active it is best to let a good half hour elapse after taking before eating breakfast. To avoid heart action or the sensation of a disagreeable taste, one can disguise the powder with the aid of essence of anise, a dose of one-half drop to a package of 20 grams, or with essence of peppermint, dose one-fourth drop per package. In the same way as bismuth subnitrate, kaolin is a disinfectant and deodorant of salts. It is even superior to the bismuth salt in its effect on the intestines for it tends to allay difficulties in the intestines and to cause them to function regularly. But it would be a very exaggerated statement to say kaolin can completely displace bismuth subnitrate, for its effects are less regular and less sustained. It should be regarded merely as a good substitute, having sufficient efficacy in most cases.—(*L'Union Pharm.*)

Indian Senna—

The senna of the British Pharmacopoeia is derived from the leaves of *Cassia angustifolia*, and the chief source of supply outside of the Sudan is the Tinnevelly District of the Madras Presidency. The plant is cultivated on special plots of land. No estimate of the area under cultivation, however, can be made but it has been stated that on dry lands 700 pounds of leaves per acre, and on garden lands under wells, as much as 1,400 pounds may be obtained. Plucking commences generally sixty days after sowing, the leaves being stripped from the stalks, and if the flower buds are nipped off a heavier flush of leaves follows. After picking, the leaves are dried in the shade for a week or ten days, and the senna is then ready for sale. Between the cultivator and the shipper is the inevitable middleman who mixes the leaves, and bags them before selling to the exporter who has therefore to re-sort according to size and quality before baling. The usual season for collecting runs from June to December. Indian senna has a good reputation for quality and price. In pre-war times the principal customers for senna were the United Kingdom, the United States of America, Germany and France; 99 per cent of the exports of senna go from Tuticorin, the unit of sale at the port being the candy of 500 pounds, and that of shipment bales of 2½ to 2¾ hundredweight each.—(*Ind. and East. Dr.*)

Korean and Canton Ginsengs—

According to W. Sakai (*Iji Shimbun, Jap. Med. Literature*), Korean and Canton ginsengs are of approximate equal quality. Their chief ingredients are saponin, paraquillian, phytosterol ester, terpene, panacean, and fatty acids. The quantitative composition depends on the period of cultivation, mode of preparation, and age of the drug. Ginseng stimulates respiration and circulation, exerts a sedative action on the nervous system, and possesses diuretic powers. It may produce hyperemia of the conjunctiva, epistaxis, and slight dizziness. To test the efficacy of the ginseng, two men of equal physical strength are chosen, the drug is administered to one, and they run a race; the ginseng is considered potent if the man who took it wins the race.—(*Chem. Abstracts*)

Pandigital; a New Magistral Preparation of Digitalis—

To make a galenical preparation of digitalis which will contain all of the therapeutically active principles of the drug, Crouzel recommends to macerate 10 grams of the finely chopped leaves with 950 Cc. of cold water (previously boiled) for 24 hours, filter, plug the funnel and pour 45 Cc. of 50 per cent alcohol over the residue on the filter. After six hours of contact, allow filtration to proceed and follow with the aqueous extract obtained in the first operation. To the combined liquids, add 5 Cc. of tincture of iodine and sufficient water to make 1000 Cc. The tincture of iodine does not interfere with the therapeutic properties of the preparation; it is added to impart stability.—(*Repert. Pharm.*, through *Chem. Abstracts*)

Ointment of Tannic Acid—

In place of the present official formula for ointment of tannic acid I. Lewyn suggests the following, which he states is easy to prepare and the ointment will keep in good condition in any climate:

Tannic acid	20 grams
Glycerin	20 grams
Ointment	60 grams

—(*J. Am. Pharm. Assoc.*)

New Books for Pharmacists

STANDARDS AND TESTS FOR REAGENT CHEMICALS. By Benjamin L. Murray, member of the American Chemical Society, etc. 6x9 inches, 385 pages, cloth. New York. D. Van Nostrand Company

The author, for many years in charge of the control laboratories of Merck & Co., has had an opportunity given to but few to acquire an intimate personal knowledge of fine chemicals; that he has made the most of his opportunity must be apparent to any pharmacist who will take the time to examine this book in which are described the more important testing chemicals used in factory and other laboratories, and the methods given for their standardization. The description of each chemical includes its physical properties, action of light and air, precautions to be observed in storing, statement of uses, etc. In many instances, the physical constants of reagent chemicals produced in a commercial way are compared, for purposes of information, with those obtaining on laboratory specimens, doubtless of extreme purity. The author believes that such information will prove of value, especially to the younger men or those without convenient reference works at hand.

Following the descriptive matter under each chemical is a tabulated statement of the "maximum limits of impurities," which the author states, does not indicate the amounts of impurities present, but the maxima permissible in chemicals suitable for miscellaneous reagent purposes, the reagents of the market being frequently below these maxima. The methods employed to find the percentage of impurties and a quantitative method are given for each reagent under consideration. A knowledge of the character of the reagents employed, is essential to every chemist, for unless qualified to determine the purity and identity of these substances, one can scarcely hope to be sure of the meaning of the reactions obtained in analyzing compounds of unknown composition. Mr. Murray has done good work in assembling and arranging in logical order such a vast amount of authoritative information relating to reagent chemicals.

THE MICROBIOLOGY AND MICROANALYSIS OF FOODS. By Albert Schneider, M.D., Ph.D. (Columbia Univ.), professor of pharmacognosy, College of Pharmacy, University of Nebraska, etc. 6x9 inches, 262 pages, 131 ill., cloth. Philadelphia. P. Blakiston's Son & Co.

The enactment of legislation to control the quality of food materials has given an impetus to a study of the character and the adaptation of methods for estimating the value and wholesomeness of all products used for the nutrition of man. The problems involved in such a determination have been attacked from many directions, the producer, manufacturer, medical man, dietitian and food analyst, each having a particular interest in the final result. To reach all of the facts, however, the investigation calls for the conjoint efforts of all, and of these none are of more importance than are those of him who intelligently follows and applies the methods described in this book.

This volume is intended as a guide to the study of the microbiological decomposition changes in foods, and aims to present a practical working basis for ascertaining the decomposition limits of foods suitable for human consumption, by means of the direct methods of microanalysis. The microanalytical examination of milk, water, and other beverages is also included. While the text is addressed to dietitians and food examiners, the book is also designed to serve as a laboratory guide for students in universities and colleges where courses in dietetics, food analysis, etc., are given. The microanalytical methods outlined are those in use at the present time, while the proposed food ratings, the author states, are based upon many years of practical experience in the examination of all kinds of food products and are, he believes, fair to both consumer and manufacturer.

The various divisions of the subject are presented under the following headings; I, Decomposition changes in foods; II, The principal groups of organisms concerned in food spoilage; III, Subdued and retarded food decomposition; IV, Foods especially liable to be harmful or dangerous; V, Food substances not likely to undergo microbic decomposition; VI, Food analysis in the field; VII, Food adulteration; VIII, General and special micro-analytical methods; IX, Micro-analytical rating of food products; X, Legal standards of purity; XI, Diet table; XII, References, the book ending with the usual general index. Taken in its entirety, this work is a valuable addition to the specialized literature on the subject.

EXPLOSIVES. By E. de Barry Barnett, B.Sc. (Lond.), A. I. C. 8 vo., XVI+241 pages, cloth. New York. D. Van Nostrand Company.

This book, one of a series of volumes which aims to give a comprehensive survey of the chemical industries, shows how chemical principles have been applied to the discovery and invention of explosives, and, on the other hand, how chemical methods have been employed in investigating these substances. An introductory chapter gives a historical sketch of explosives in general, beginning with gunpowder, which was the only explosive known until the middle of the nineteenth century. Of particular interest is the statement that the Chinese seem to have made the first use of gunpowder in warfare in 1232, although, apparently, it was not used for blasting purposes for several hundred years. Guncotton was discovered by Schonbein in 1845, and nitroglycerine, by Sobrero, in 1846.

The discovery by Braun, in 1868, that dry guncotton could be fired by a fulminate detonator, and that wet guncotton could be fired in the same way if a small primer of dry guncotton was used, paved the way for the use of this explosive in warfare. Another step forward was Nobel's experiments with nitroglycerine, and his discovery of blasting gelatine. Then Sprengel's discovery that mixtures of suitable organic compounds, such as nitrobenzole, and strong or fuming nitric acid or liquid nitrogen tetroxide, could be detonated was announced. Then followed the invention of other processes and explosive compounds, smokeless powder, mixtures of varying composition used as blasting charges for shells, etc., and the enormous output of the widely differing types of explosives which dominated the prosecution of the recent world war.

The character, composition and manufacture of the various explosives are discussed in this book in the following order; I, Gunpowder; II, Explosive compounds, nitroglycerine nitrocellulose, nitroaromatic and miscellaneous compounds; III, Smokeless propellants; IV, Blasting explosives; V, Safety coal mine explosives; VI, Percussion caps, detonators and fuses; VII, Matches, pyrophoric alloys and pyrotechny; VIII, Explosive properties; IX, Sensitiveness and stability. Of all the nitrates used in explosives, the author remarks, ammonium nitrate, notwithstanding its objectionable quality of being very hygroscopic, is probably destined to be employed to a far greater extent in the near future, owing to the production of cheap ammonia by the Haber process, and of cheap nitric acid by the oxidation of this or directly from the air by electrical means. The war has shown to what an extent the dyestuffs, explosives and fertilizer trades are interdependent, and the advent of synthetic nitrates will make them even more so.

PHARMACEUTICAL BACTERIOLOGY. By Albert Schneider, M.D., Ph.D. (Columbia Univ.), professor of pharmacognosy, College of Pharmacy, University of Nebraska. 2nd edition revised and enlarged with 97 illustrations. 6½x9 inches. 441 pages. cl. Philadelphia, P. Blakiston's Son & Co.

Bacteriology as a general subject is of interest to workers in various lines of effort, but its introduction into pharmacy is of comparatively recent date. At the present time the subject has been so broadened and specialized that practically all of the colleges of pharmacy give instruction in pharmaceutical bacteriology as a required subject. Such knowledge is most important to the pharmacist, for without it, he is not in a position to understand the significance of bacteria to pharmaceutical practice, nor can he know as he should which of his preparations are likely to be attacked by bacteria, or what changes they are capable of producing in such substances. The whole process of sterilization is very intimately related to facts determined by bacteriological methods, as is the knowledge and application of antiseptics and disinfectants, so it becomes very easy to realize why bacteriology finds an important place in the modern college curriculum.

This book at the outset emphasizes the importance of this knowledge to the pharmacist, and gives many reasons why pharmacists should study bacteriology. Then follows a chapter on the historical development of the subject, beginning with Hippocrates (300 B.C.) and naming in succession such epoch-making specialists as Leeuwenhock (1656), Schwann (1837), Pasteur (1862), Behring (1890) and Wright (1907), the last named leading up to the discovery of serum therapy, bacterial vaccines, and the development of utilitarian bacteriology. This chapter and that on the origin of bacteria and other micro-organisms are presented in a most interesting style, and they are well worth reading by the pharmacist whether he has had any training in bacteriological technique or not. From what the author so well sets forth, the average reader will be tempted to conclude that if ever the problem of life is solved, the bacteriologist is most apt to be the one who will find the solution.

Of course, these are interesting generalizations. To be of practical service, the pharmacist must take up the fundamentals of the science and apply them to his special uses. These are considered under the following headings; General morphology and physiology of bacteria; range and distribution of bacteria; bacteriological technic; symbiology; bacteria in the industries; zymology-ferments and fermentation; immunology, bacterial activities and bacterial products; serology, the manufacture and use of sera and vaccines; adenology, the glands, glandular extracts; yeasts and moulds; protozoa in disease; disinfectants and disinfection, food preservatives, insecticides; sterilization and disinfection in the pharmacy; communicable diseases with suggestions on preventive medicine, these considerations concluding with a chapter entitled "A Bacteriological and Microscopical Laboratory for the Pharmacist."

EVANS' ANALYTICAL NOTES FOR 1914 to 1919. From the Laboratories of Evans Sons Lescher & Webb, Limited, Liverpool, London, and New York. 128 pages.

This is the first appearance of Evans' "Analytical Notes" since April 1914, and its publication is of interest to the trade at the present time as showing some of the conditions with which manufacturers have had to cope and the general character of some of the materials with which they have to deal. The methods of investigation, and the results of the analyses of the many different drugs and chemicals given in this bulletin, together with the deductions derived therefrom, are illuminating, and will prove helpful to those interested in the character of the materials used in pharmaceutical manufacturing. The book includes besides the analytical data, a number of pages devoted to laboratory notes and reference tables, and a general index covering the contents of all issues of "Analytical Notes" to date.

PICTORIAL COMPOSITION IN PHOTOGRAPHY. By Arthur Hammond, associate editor of American Photography. 6½x4½ inches, cloth. 218 pages. Boston, American Photographic Publishing Co.

This is a most readable book, giving due credit to the many interested workers in various branches, as the experts in photographic chemistry who have done so much to perfect the modern dry plate with its wonderful speed and other advantages over the wet plate, as also those technical and optical enthusiasts who developed the anastigmat lens and other refinements of workmanship, without the combined efforts of whom photography would not have reached the present high standard of artistic quality. It is to those who are interested in photography as a means of artistic expression in pictorial representation that this book will particularly appeal. These recognize in photography a certain something by means of which they can express their pictorial ideas and convey their expressions to others.

How can the photographer express these artistic ideals in his pictures? He is told that he must work and study to make himself master of technical difficulties, for his artistic feeling alone is not sufficient to produce the desired results. Unless he possesses a thoroughly sound foundation of technical knowledge and manual dexterity, his work will always be crude and unfinished, and he will never have complete control over the factors and conditions which must be considered in reproduction work. The camera is, essentially, a copying machine, but in the hands of the artist, if we are to believe this book, it can be the medium by which he presents his interpretation of actual facts as he sees them.

This he does by selecting his subject with reference to the point of view, and the arrangement of details to make the lines and shapes and space relations conform to his taste and his appreciation of a satisfying pattern. It is by attention to such details that the artist photographer gets effectiveness and pictorial interest in his reproductions, which is something more than mere map work or the scientific exhibition of details. In the language of the author, "we must learn to see things in terms of lines, shapes and masses, and then we can determine from what point of view to photograph our subject, if it be a scene from nature, so that its lines and masses will form fine, or at least agreeable, space divisions." The fundamental principles and the methods of obtaining these results are most interestingly set forth in the author's discussion of such topics as spacing, tones, pictorial balance, perspective, line composition, the definition of art, and last, but not least, the technique of pictorial photography.

ROURE-BERTRAND'S BULLETIN

Roure-Bertrand Fils, Grasse, France (Roure-Bertrand Fils, Inc., 18 Cedar st., New York) have resumed publication of their valuable scientific and industrial Bulletin. The present issue is No. 10 of Series 3, and contains a review of the researches on essential oils and related products published from April, 1914 to October, 1919. The Bulletin covers a wide field of investigation, the present number closing and including an alphabetical index of the ten numbers forming the series. Roure-Bertrand Fils propose to issue the Bulletin every half year as formerly to keep their friends "in touch with the progress made in the domain of perfumes and essential oils."

W. C. Hayhurst, for many years manager of the St Louis branch of Parke, Davis & Co., has been transferred to the Kansas City branch. This is in the line of promotion as the Kansas City branch is larger than the one in St. Louis. Dr. J. A. Warner, who had been for sixteen years assistant to Mr Hayhurst, has been promoted to the position of St. Louis manager.

Professional & Trade Associations

NEW YORK STATE Ph.A. IN CONVENTION

President Lehman Discusses Various Subjects of Interest and Suggests that Druggists May Find New Order of Business of Advantage—Treasurer's Cash Balance Largest Ever—Officers Elected

The New York State Pharmaceutical Association began its 42nd annual meeting at Alexandria Bay on Tuesday, June 24, the session being held in the assembly room of the Thousand Island House, a famous hostelry on the St. Lawrence river. About 200 members and their friends were present, including quite a number from each of the larger cities. President Robert S. Lehman, of New York City, called the meeting to order, and introduced William B. Marshall, of Alexandria Bay, who delivered an address of welcome on behalf of the local druggists. Dr. Willis G. Gregory, of Buffalo, responded to the cordial welcome on behalf of the association in an address that was full of wit, stating that he considered it was best to bring an overcoat and not a bathing suit, as the temperature was of the regular winter variety.

Chairman Fischer of the Committee on Conventions announced the entertainment features arranged for the meeting, and President Lehman started in at once with his annual address. In this he referred to the hardships the drug trade had suffered in the emergence of the country from the effects of the World War, owing to the difficulties encountered in obtaining materials for proper carrying on of the business, as well as in dealing with the spirit of unrest among employees in all branches of industry. Many new regulations, owing to the adoption of prohibition and taxation laws, had obliged the pharmacist to break away from that former simplicity which characterized the manner of conducting his business, he said, and caused him to adopt new and apparently complicated methods of accounting and recording.

During the past year eighteen members had been removed by death, among them being ex-President William Muench, of Syracuse, who presided at the meeting held in Newburg in 1900. The drug trade has shared in the general financial prosperity of the country and, according to President Lehman, the material rewards have been somewhat higher than heretofore. Incidentally, this situation had done much to eliminate the ruinous competition exhibited mainly by price-cutting, and had brought about in many localities, through mutual agreement, the early closing of stores, the reduction of Sunday service, and higher pay to the employees. The increase in the number of students attending colleges of pharmacy, in face of the fact that entrance requirements had become more rigorous, is evidence that the young men and women of to-day are not to be scared by the bugaboo of hard work and long hours.

The liquor traffic is most distasteful to all pharmacists, and the questionable privilege of being a "retail liquor dealer," as designated in the law, is far from satisfactory. The recent decision of the U. S. Supreme Court has demonstrated that the States cannot deviate from the National law in respect to prohibition, so that whatever changes are to be made with reference to the distribution of liquor will have to emanate from Washington.

Other subjects touched upon in the address were those pertaining to the lines of work being carried on by the various committees; the Commercial Travelers' Auxiliary; the disposition of the fund collected by the Ambulance Committee of 1918, but which had not been used owing to the conclusion of the war; a recommendation for the organization of a Woman's Auxiliary or Woman's Section; the closer affiliation of all pharmacists, and an appeal to all members to take a more active part in public affairs.

Secretary Dawson reported that the cost of publishing and mailing the 1919 proceedings was $714.81, as compared with $815.79, the total cost of the 1918 proceedings. At the last annual meeting, 171 new members were elected, the list of membership at the date of the publication of the 1919 proceedings containing the names of 1,775 active members. Since that time, so far as known, there have died, 19; resigned, 13; and dropped from the roll, 9, leaving a present total membership of 1,734. The total expenditures of the secretary's office during the year amounted to $1,251.07.

Treasurer Frank Richardson of Cambridge reported the largest cash balance the association has ever had, viz., $2,854.38; the total receipts for the year were $5,155.33, and the expenditures, $2,300.95.

Secretary Warren L. Bradt presented a report of the operations of the New York State Board of Pharmacy during the past year, which contained the following data: Pharmacies registered, 4,871; drug stores registered, 62; certified storekeepers' certificates of permit issued, 848; apprentice certificates issued, 921; licenses exchanged, 31; number of inspections, 8,606; alleged violations reported by inspectors, 383; cases settled, 216; cases held in abeyance, 123; penalties collected, $12,000. Applications for registration during the year: Pharmacists examined, 516, passed, 315; junior pharmacists examined, 307, passed, 156; druggists examined, 77, passed, 55.

The reports of Chairman Arny of the Committee on New Remedies, and of Chairman Lampa on Drug Market, read in the absence of these gentlemen by Secretary Davison, and the report of the Committee on Commercial Interests by S. Kopald, chairman, were referred for publication. A telegram received from Secretary Samuel C. Henry of the N.A.R.D. conveyed the greetings of that body and expressed satisfaction for the continued affiliation of the N.Y.S.P.A. The offer of the Council of the A.Ph.A. that when 51 per cent of the members of any State association become members of the A.Ph.A. there will be refunded to the State association $1 for each member was referred to a committee of five, of which Dr. Geo. C. Diekman was appointed chairman.

In the general discussion which followed the reading of the various reports, the subjects receiving most attention were the monthly reports on the sale of alcohol and narcotics, and price cutting, Messrs. Zagat, Diamond, Dr. Anderson and Dr. Rehfuss being the principal speakers.

The following officers were elected for the ensuing year: President, Robert S. Lehman, New York City (re-elected); 1st vice-president, Herbert G. Wright, Syracuse; 2nd vice-president, Arthur H. Reiman, Buffalo; 3rd vice-president, Mendel Zagat, New York City; secretary, Edward S. Dawson, Syracuse (re-elected); treasurer, Frank Richardson, Cambridge (re-elected); trustees, Charles N. Lehman, Tottenville (chairman), Louis Stolz, Syracuse, and Pincus Herz, New York.

The association also recommended the names of the following to be submitted to the State Board of Regents for appointment to membership on the State Board of Pharmacy: W. G. Gregory, C. B. Sears, William Mansfield, Arthur Wardle, Arthur H. Reiman, Frank A. Lawyer, H. B. Wright, Louis Stolz, and Frank Richardson.

SKINNER HEADS MICHIGAN DRUGGISTS

The thirty-eighth annual convention of the Michigan State Retail Pharmaceutical association which met in Grand Rapids recently, closed with the election of the following officers:

President, J. A. Skinner, Cedar Springs; vice presidents, G. S. Barnard, Benton Harbor; J. H. Weisel, Monroe; treasurer, Karl H. Wheeler, Grand Rapids; secretary, F. J. Wheaton, Jackson; members of executive committee, D. G. Look, Lowell; J. H. Webster, Detroit; trustees Prescott memorial fund, Prof. Henry Kraemer, Ann Arbor, E. E. Calkins, Ann Arbor.

At the session Wednesday afternoon E. C. Brokmeyer, counsel for the national association, strongly urged members to give their personal attention to legislation as a safeguard against "unjust" laws.

A resolution that the pharmacists should be relieved of the liquor business and that city, county, state or federal dispensaries be established was tabled. The members favored the plan, but thought they should not shirk any responsibilities the government might place upon them until a satisfactory plan can be worked out.

The annual meeting of the Pharmaceutical Travelers Association was held Thursday afternoon, June 14, and closed with a banquet at the Pantlind in the evening. Lee M. Hutchins, toastmaster and the speakers Con. De Pree, Holland; C. L. Glasgow, Nashville, and Lee H. Bierce, Grand Rapids.

DRUGGISTS DISLIKE RED TAPE IN LAW

The Massachusetts State Pharmaceutical Association held an important two-days' session on June 22 and 23 at the Ocean House, Swampscott, with a large attendance on both days.

John F. Kramer, of Washington, Federal Prohibition Commissioner, delivered a vigorous speech revealing the cooperative spirit and intention of officers entrusted with the application of the Volstead Act, and then submitted to a fire of questions.

It developed that an almost universal objection existed to the present complicated system of forms which every retail druggist is required to tabulate and objection was also raised to the intricate bookkeeping accompanying the sale of narcotics.

Prohibition officers were criticised for having listed 18 articles used in the compounding of prescriptions as intoxicating beverages. It was claimed that these were of an erudite nature which made them safe from public knowledge until they were published by the government. There was some objection too, because several members of the association thought the board of technology, which passes upon all scientific matters under the Volstead organization, did not include the name of a practical druggist.

The following resolution was adopted: "It is moved that we request the department to modify some of the rulings pertaining to the 18 articles so that the druggist can buy them for compounding purposes without being compelled to take out a retail liquor dealer's license, and this association authorizes its legislative committee to take up with Mr. Kramer all matters bearing on this question."

President Charles C. Hearn, of Quincy, presided and one of the busy men of the opening session was John F Finneran of this city, chairman of the national executive committee of the National Retail Druggist Association.

At the second day session the following officers were chosen: A. J. H. Parquette of Lynn, president; William H. Glover of Lawrence, first vice president; Timothy H. Shea of Worcester, second vice president; John J. Tobin of Boston, treasurer; James S. Guerin of Worcester, secretary; C. Fred Wright of Boston, Frederick Brandes of Webster and Dominic J. Corrigan of Fall River, members of the board of pharmacists; William S. Sawyer of Boston, S. E. Mole of Adams and William A. Flint of Worcester, trustees.

Following the business meeting, the pharmacists and their wives went to Gloucester to enjoy a banquet and dance.

CONNECTICUT DRUGGISTS MEET

The forty-fourth annual meeting of the Connecticut Pharmaceutical association, at the Madison Beach hotel, Madison, closed with the election of officers as follows:

President, S. F. Nelson, Hartford; first vice-president, Frank Sisk, Norwich; second vice-president, Ernest F. Gybe, Waterbury; secretary and treasurer, P. J. Garvan, Middletown.

The gathering was the largest ever held under the auspices of the State Association of Retail Druggists. Visitors were present from New Jersey. New York and Massachusetts. Fully 300 were in attendance with friends and families. Among the plans discussed was the establishment of a college of pharmacy in connection with Yale university. A committee composed of C. F. Whittlesey of New Haven, F. Hope of New Haven and P. J. Garvan of Middletown, was appointed to develop the plans for this undertaking. Plans were also made for the mid-winter meeting, which in all probability will be held in Hartford.

VERMONT PHARMACISTS ELECT

Burlington. Vt., July 3.—At the twenty-seventh annual meeting of the Vermont State Pharmaceutical Association, held here last week, the following officers were chosen for the ensuing year:

President, Harris Alexander of St. Albans; first vice-president, E. B. Hyde of Brandon; second vice-president, A. O. Austin of Orleans; third vice-president, C. N. Shaw of Bellows Falls; secretary, John B. Lambert of Burlington; treasurer, W. E. Terrill of Burlington; trustees of the permanent fund—W. F. Root of Brattleboro, O. W. McShane of Poultney and W. B. Shangraw of Rutland.

Deputy Collector Niebold spoke to the druggists in regard to the enforcement of the Volstead law. He wanted them to remember that the law was not made by the internal revenue department and said that it differed from other laws in a hundred different ways, but it was the law and it was the business of the department to enforce it. He said that he did not think a druggist in Vermont was handling Jamaica ginger illegally. If this was being done the department had not heard of it. He wanted to make clear the situation in regard to pepsin, and said that pepsin, which was compounded with alcohol must contain at least eight grains of pepsin to the ounce or it would be classed as an alcoholic drink. When the mixture was perhaps two years old a large amount of the pepsin had been assimilated and the article would be pretty nearly alcohol He also took up the subject of getting reports in on time and accurately, promising trouble for those who did not

ILLINOIS PH. A. AT ROCKFORD

Pharmacists Want School of Pharmacy Facilities Extended and Faculty Enlarged to Meet Needs of the State—Conflicting Opinions on Policy of Druggists Selling Liquors

The attendance of more than 400 members was registered at the 41st annual meeting of the Illinois Pharmaceutical Association, held at Rockford, June 22 to 24 inclusive. Responses to an address of welcome by Mayor Rew were responded to by President Kennedy of the Illinois Pharmaceutical Travelers' Association and Vice-president Clancy of the I.Ph.A. In his address President Wheatcroft brought out strongly the vital needs of the Association, urging that a one hundred per cent membership be secured through an amendment to the Pharmacy Act whereby every registered pharmacist would automatically become a member of the Association. Such legislation is in effect in several of the western states. He also advocated the presentation of the reports of officers and committees in abstract unless these were deemed of especial importance, so as to permit of an entire session being devoted to practical talks upon business subjects, particularly salesmanship, handling of side-lines, etc., such as might more strongly appeal to the average druggist and bring him to the convention.

Secretary Day reported that the Association was fully holding its own, having now 1,500 members. 140 new members were presented for election at the meeting. The collection of dues during the past year has been the largest during the history of the Association. Treasurer Bennett s report showed the Association to be in sound financial condition with a slight margin of income over expenditures for the year.

Beal Prize memberships were presented to the following, who made the highest marks in the state examinations during the year: Walter H. Dimond, Chicago; James E. Sterling, Dixon; Vincent Zahajkiewicz, Chicago.

The report of the Advisory Board developed the fact that the School of Pharmacy of the University of Illinois has been filled to overflowing with students so that it was necessary to turn away a number of students during the past year because of lack of accommodations. The facilities of the school have been somewhat extended and the faculty has been enlarged but it is still unable to accommodate all of the students who apply. The Committee on resolutions offered a resolution urging the University of Illinois to extend the facilities of the school of pharmacy and enlarge its faculty so that the pharmaceutical needs of the people of the state might be more adequately met. The committee also presented a resolution offering cooperation with the trustees of the University in securing more liberal State appropriations for the University as a whole.

Other resolutions adopted were to cooperate with the State Department of Public Health and the United States Public Health Service in the campaign to suppress venereal diseases and to reaffiliate with the N. A. R D. and appropriate the usual sum as a contribution.

The dispensing of alcoholic liquors was generally thought to be the "dynamite" of the convention. Last year, the Association went on record as strongly opposed to the handling and sale of liquor by druggists. but the developments during the year have led a considerable number of the members to take out permits as retail liquor dealers and a lively debate was precipitated when Senator John J. Boehm, an ex-president of the Association, strongly opposed the taking out of such permits and the handling and sale of liquor in any form by pharmacists, stating that in his opinion such a step would be the ruin of pharmacy as a profession. I. M. Light and President S. L. Antonow of the C.R.D.A. defended those druggists who have deemed it necessary or advisable to take out permits, and stated that in their opinion the druggists have been entrusted by Congress with the handling and sale of these alcoholic liquors strictly for medicinal purposes and so long as they fully live up to the law, they should not be censured for accepting the trust that Congress had imposed.

Addresses were made by Professor James Hartley Beal who spoke on "Legislation, Rational and Irrational," and deprecated the craze for legislation, so evident at the present time, when everyone who detects a real or fancied evil endeavors to have it corrected by the passage of a law against it. National Secretary S. C. Henry spoke upon the "Regulations Concerning the Sale of Alcohol and Narcotics," and his address was especially well received. Major A. V. Dalrymple, District Prohibition Officer, was to have addressed the convention but was unable to be present and sent his representatives, Messrs. Brown and Newberry, who discussed with the druggists the regulations concerning the dispensing of alcoholic liquors.

The election of officers resulted as follows: President, William J. Clancy, LaSalle; 1st vice president, Ad. Umenhofer, Chicago; 2nd vice president, Fred W. Rauth, Springfield; 3rd vice president, S. L. Antonow, Chicago; secretary, Wm. B. Day, Chicago; treasurer, George M. Bennett, Urbana.

Among the entertainments were the President's Reception and Ball at the Hotel Nelson, a dinner followed by a vaudeville performance at the Shrine Temple and a boat ride on the beautiful Rock River with music, dancing and box luncheon. The weather was ideal and the meeting was by all considered a most successful one. The time and place of the next annual meeting were left to the Executive Committee which will meet in Chicago in November.

The Illinois Pharmaceutical Travelers' Association met at the same time as the Illinois Pharmaceutical Association and took charge of the entertainment features, greatly to the satisfaction of the pharmacists. The Travelers elected the following officers: President, H. L. Carnahan; vice president, L. J. Bertoli; secretary-treasurer, W. W. Baldwin.

NORTH CAROLINA

Asheville, July 15.—Charlotte was chosen as the place for the next annual meeting of the North Carolina Pharmaceutical Association at the concluding business session held at the Battery Park hotel.

E. E. Missildine, of Tryon, was elected president for the coming year, I. W. Rose, of Rocky Mount, first vice president; J. A. Goode, of Asheville, second vice president; P. A. Lee, of Dunn, third vice president; J. G. Beard, of Chapel Hill, re-elected secretary-treasurer, and C. P. Greyer, of Morganton, re-elected member of the board of pharmacy.

A business or legislative committee composed of K. G. Grantham, of Dunn; Henry T. Hicks of Raleigh; A. A. James, of Winston-Salem; E. L. Tarkenton, of Wilson, and C. M. Andrews of Hillsboro, was appointed for the purpose of urging upon the legislature the passage of laws helpful to the drug business.

Among the many things which will be asked of the next session of the legislature will be a change in the requirement of registration of a licensed pharmacist, raising the requirement from one year in a college of pharmacy to graduation.

MARYLAND

The Maryland Pharmaceutical Association, at its annual meeting at Braddock Heights, on June 29 and 30, and July 1 and 2, went on record as favoring the establishment of government-owned dispensaries to distribute liquor for medicinal purposes, thus relieving drug stores of the business, which was declared to be objectionable for various reasons. This action followed recommendations made in the annual report of David R. Millard, the retiring president, who strongly inveighed against the present arrangement, which, he said, caused pharmacists much trouble and exposed them to aspersions which they should be relieved from. He said in the course of his address:

"We have passed through a strenuous period, endeavoring to conduct a refined grog shop business, trying to run a soda fountain in spite of 25 cent sugar, a complicated system of revenue collections and high salaried employes. We have become so accustomed to the litter of revenue stamps and the tangle of red tape that if old conditions should return the druggist would feel out of place.

"Ask any druggist and he will tell you that Mr. Volstead opened a Pandora box of evils when he framed the law that bears his name. Out of that box came thousands of yards of red tape, millions of stamps backed by sticky, tongue-cloying mucilage, billions of bookkeeping details, disputes with booze hounds, interviews with revenue officers and countless other vexations of spirit."

Mr. Millard advocated the adoption of the following resolution:

"Believing that the government committed a tactical error in wishing the liquor business upon the retail druggists, we do therefore resolve in the interest of law enforcement and that the high standard of pharmacy may be preserved untarnished, to politely, but very finally decline the honor, standing pat on the proposition that liquor should be distributed through dispensaries owned, operated and controlled by the government."

Mr. Millard also recommended annual registration of druggists and that a special committee take up the problem of the cut-rate druggist who pays small wages and offers a rake-off in sales of goods. He proposed further that the annual dues of the association be increased to $5 for members and $2 for clerks, and that advertising rates of the "Proceedings of the State Association" be raised.

The recommendations were referred to a committee, which reported favorably upon the various matters on the following day, when a resolution was adopted, authorizing the president to appoint a committee to lay resolutions as outlined in the annual address on the Volstead act before the authorities at Washington. The action taken on the subject was unanimous, the resolution declaring that the sale of intoxicants worked a hardship and placed the druggist at a decided disadvantage. Druggists, it was said, had been bothered beyond endurance by men and women who sought to obtain liquor by all sorts of subterfuges. Only by the exercise of exceptional precautions were druggists enabled to weather safely the red tape surrounding the sale of whiskey.

The association referred the recommendation as to annual registration to the new legislative committee to be named by the incoming president, and voted in favor of the proposed increase of dues. It was further decided to engage in an active campaign to increase the membership, if possible, to 1,500. At the present time registration of pharmacists and assistants is for an indefinite period, those who pass the examinations of the board and are registered not being required to go through the process again. In the event of annual registration there would be a small fee to pay, the proceeds from this source to be devoted to the advancement of the interests of pharmacy.

Various reports of standing committees and of the other officers were read, and action upon them taken. The election of officers resulted in the approval of the slate presented by the nominating committee, as follows:

President: George E. Pearce, Frostburg; vice-presidents; R. E. Lee Williamson and Charles L. Meyer, Baltimore, and W. K. Edwards, Cumberland; Secretary, E. F. Kelly, Baltimore; treasurer, S. Y. Harris, Baltimore; executive committee C. C. Neal, Baltimore, chairman; David R. Millard, Baltimore; Donald F. Stam, Chestertown; E. M. Duvall, Baltimore, and R. L. Swain, Sykesville.

The Maryland Board of Pharmacy submitted a statement of its activities during the year and gave a report of the result of the examinations held May 26 and 27.

The annual banquet took place on Thursday evening at the hotel when a number of addresses were made.

An address of welcome to the visiting members of the association was delivered by Guy K. Motter, of the Frederick county bar, and Jeannot Hostmann, of the New Jersey Pharmaceutical Association, who was a visitor, also spoke. Following the reports submitted at the first session on Tuesday, R. E. Lee Williamson, chairman of the legislative committee, delivered an address, outlining what was done during the last session of the Maryland General Assembly in the way of the enactment of laws affecting the druggists.

The Travelers' Auxiliary, which also held its annual meeting at Braddock Heights during the time the Pharmaceutical Association was in session, elected J. M. Hendler, an ice-cream manufacturer, as president; W. L. Pierce, who represents one of the Baltimore pharmaceutical houses, as treasurer, and J. H. E. Catlin, a manufacturers' representative in Baltimore, as secretary. It is the special mission of the auxiliary to look after the social events of the druggists. A membership campaign is to be undertaken. All of the members of the auxiliary who are qualified to serve as druggists, of course, are entitled to admission into the pharmaceutical association as active members, while others hold the rank of associates. The dues for actives are $5 a year, and those for associates $2

NEBRASKA

The Nebraska Pharmaceutical Association elected the following officers at its 39th annual meeting held at the Hotel Rome, Omaha, recently; President, G. Turner Haines, Omaha; vice-presidents, T. G. Slater, Hordville; J. H. Thompson, West Point; J. V. Deines, Fairfield, J. C. Malick, Bloomington, and W. R. Wright, Gallaway; treasurer, D. D. Adams, Nehawka; secretary, J. G. McBride, University Place.

The address of welcome was delivered by C. R. Sherman, Omaha, to which a response was made by Niels Mikkelsen, of Kenesaw. Following the address of retiring president Orel Jones, of Oconto, an address on the costs of doing business was made by Karl Kreizinger, of Shelby. There were also addresses during the various sessions by H. H. Antles, secretary of the Board of Public Welfare, which under the code has charge of the registration of pharmacists, physicians, dentists, etc., in the State; Mr. Handley, prohibition commissioner of Nebraska, who explained the steps to take in applying for permits for the withdrawal of alcohol to be used in the manufacture of pharmaceuticals; and Governor S. R. McKelvie, who gave a short talk to the members.

Seventy new members were elected. A. V. Pease, Fairbury, D. J. Fink, Holdrege, and S. C. Wilson, Lincoln, were elected life members, these having attended every meeting for the past 32, 33 and 34 years respectively. J. F. Gereke, Seward, who is a charter member but who has been detained at home by sickness for the past few years, was also elected a life member. C. P. Hildebrand, York, W. C. Butts, Columbus, and Karl Kreizinger, Shelby, were elected as candidates for the appointment of one new member to the Board of Pharmacy Examiners. Columbus was chosen as the place of next meeting.

MISSOURI PHARMACISTS WORK AND PLAY

The Missouri Pharmaceutical Association, the Travelers' organization, the Ladies' Auxiliary, the Veteran Druggists and the Missouri Board of Pharmacy were all in convention recently at the Elms Hotel, Excelsior Springs. The total attendance was over four hundred. About one hundred and fifty were members of the Mo Ph. A., over one hundred were salesmen and the rest families of members and salesmen, together with fifty candidates for registration.

This meeting in a greater degree than any previous meeting was decidedly a commercial affair. Addresses, discussions and demonstrations reflected the problems of the average drug store of the day.

Ex-senator J. Ham Lewis, of Illinois, discussed economic conditions of the world. The Missouri prohibition enforcement officer told the retailers what must be done in order to comply with the law. M. J. Ulber, manager of the Union Depot Store, at Kansas City, explained in detail the plan on which such a store is managed. Samuel C. Henry, General Secretary of the N. A R. D., outlined the work being done by that organization. Delegates from the A.Ph.A., the St. Louis R D.A. and other organizations reported. E. G. Binz, of Los Angeles, Ex-president of the California Ph.A., reported very satisfactory business conditions on the coast.

Treasurer William Mittelbach showed a balance of $857.48. Secretary H. M. Whelpley reported 772 members. Secretary H C. Tindall, of the Board of Pharmacy, stated that Missouri had 5,241 registered and 255 assistant pharmacists.

It was decided to continue The Missouri Druggist as a quarterly.

Excelsior Springs was selected for the 1921 meeting, the second Tuesday in June.

The papers presented included, "The 1895 Meeting," by H. M. Whelpley: "Is your Druggist More than a Merchant?" by C. H. McDonald; "Veterinary Pharmacy," by D. V. Whitney, Jr.; "What of the Day and What of the Future of Pharmacy?" by H. M. Whelpley.

Pre-requisite legislation was again endorsed and the committee instructed to ask for such a law. Forty-two new members were elected County organization is under way in Missouri and will be further pushed, this year. Don S. Freiday, president of the Oklahoma Ph. A., explained the progress of county organization in his state

The following resolution, introduced by Fred H. Swift and L. A. Seitz, was adopted.

"Believing that the government committed a tactical error in 'wishing' the liquor business upon the retail druggist, we, therefore, do resolve, in the interest of law-enforcement and that the high standard of pharmacy may be preserved untarnished to politely but very firmly decline the 'honor,' standing pat on the proposition that liquor should be distributed through the dispensaries owned, operated and controlled by the government."

Officers for the ensuing year were elected by the various organizations, as follows:

Missouri Pharmaceutical Association: President, Charles H. McDonald, of Rocky Comfort: honorary president, H. C. Churchill, of Windsor; first vice-president, Robert Lisch, of Springfield; second vice-president, Wm. E. Bard, of Sedalia; third vice-president, M. J. Ulher, of Kansas City: general secretary, Henry M. Whelpley, of St. Louis; treasurer, Wm. Mittelbach, of Boonville; editor, Missouri Druggist, Minnie M. Whitney, of Kansas City; local secretary, H. C. Tindall, of Excelsior Springs; assistant secretary, Samuel G. Becker, of St. Louis; council: A. C. Smith (chairman), of Carrollton; Minnie M. Whitney (secretary), of Kansas City; Dr. Otto F. Claus, of St. Louis; R. A. Doyle, of East Prairie; H. D. Llewellyn, of Marshall.

Missouri Pharmaceutical Travelers' Association; George Bennett, of Kansas City, president; W. J. Walsh, of St. Louis, first vice-president; C. W. Loomis, of Kansas City, second vice-president; William O'Neil, of Chicago, third vice-president: C. B. Wilkins, of Kansas City, secretary: Dan Liddy, of Kansas City, treasurer.

Ladies' Auxiliary: Mrs. Charles Hose, of Kansas City, president: Mrs. A. C. Smith, of Carrolton, first vice-president; Mrs. R. L. Hope, of Centralia, second vice-president; Mrs. C. B. Wilkins, of Kansas City, third vice-president; Mrs. C. P. Johnson, of St Louis, recording secretary; Mrs. C A. Peck, of Excelsior Springs, corresponding secretary; Mrs. C. W. Loomis, of Kansas City, treasurer; Mrs. Charles Schall, of St. Louis, Auditor.

Six of those who organized the Mo. Ph A. in 1879 were in attendance and held a re-union.

TEXAS

The 41st annual meeting of the Texas Pharmaceutical Association, held at the Adolphus Hotel, Dallas, beginning on June 15, was well attended by druggists throughout the State, and the entire proceedings were harmonious and instructive from start to finish. Following the customary addresses of welcome and responses, President S. P. Harben reported on the work of the association during the past year, and urged the retail druggists to co-operate with wholesale druggists for the betterment of both, and that the former should patronize the latter rather than the wholesale grocers. He also urged that the constitution of the association be redrafted on the ground that, being adopted in 1879, it did not meet present conditions. Nels Darling, of Oklahoma City, made an address in which he advocated cleaner stores, more attention to customers, a greater interest in civic affairs and better service to the public.

The entertainment program included the annual banquet, attended by 856 guests, the largest function of the kind ever held in Dallas; daily luncheon at noon each day; a matinee at the Majestic theater, a ladies' reception and ball, a musicale at the Cedar Crest Country Club, and a card party at the hotel. The following officers were elected:

President, W. C. Burns, San Antonio; 1st vice-president, W. Arthur Skillern, Dallas; 2nd vice-president, J. W. Collins, Amarillo; 3rd vice-president, W. H. Wentland, Manor; 4th vice-president, W. G. Willman, Brownsville; secretary-treasurer, W. H. Cousins, Dallas; home secretary, J. W. Graham, Austin; member of board of trustees, Oliver P. Harris, Whitney. San Antonio was selected as the place of next meeting.

KENTUCKY

The attendance at the 43rd annual meeting of the Kentucky Pharmaceutical Association held at Paducah in June, was not as large as that of previous years, yet there were 125 members present, and the interest taken in the proceedings was marked throughout the sessions. The reports of the officers and various committees indicated a most gratifying condition of the association's affairs. One hundred and twenty-five new members were added during the year

Perhaps the most outstanding feature of the meeting was the report of the Legislative Committee which showed the enactment of highly important legislation, the most prominent of which was: A State prohibition enforcement act following closely the National Act; An amendment to the State Board of Health law allowing one druggist to be a member of that body, such drug member to be appointed by the Governor from a list of three names submitted to him by the Ky. Ph. A., and to have certain rights and privileges: An amendment to the State pharmacy law giving the Board of Pharmacy the right to fix the qualifications for registration as pharmacists, thus avoiding the necessity of seeking a change in the law when a change in the qualification requirements for registration became either necessary or desirable, and enabling the board of pharmacy to readily harmonize such requirements with those of other states.

The convention was addressed by the State Federal Prohibition Director who gave some helpful explanations of the requirements governing the enforcement of the National Prohibition Act. The social features included automobile rides, card, dancing and theatre parties, and an all-day boat ride on the Cumberland river.

The following officers were elected; President, James F. Wilson, Mayfield; 1st vice-president, C. H. Brockmyer, Fredonia; 2nd vice-president, L. C. Ellis, Glasgow; 3rd vice-president, J. M. McRoberts, Lancaster; secretary, J. W. Gayle, Frankfort; treasurer, Vernon Driskell, Carrollton. The 1921 meeting will be held at Crab Orchard Springs.

ARKANSAS PHARMACISTS

Little Rock, Ark., June 28.—William G. Ownbey, of Springdale, former colonel of infantry, was elected president of the Arkansas Pharmacists' Association, which closed its thirty-eighth annual convention here recently. Other officers were S. V. Bracy, Little Rock, first vice-president; P. D. Vincent, Texarkana, second vice-president; Miss Mary A. Fein, Little Rock, secretary and treasurer; Executive Committee: Felix W. McClerkin, Little Rock, chairman, and L. K. Snodgrass, Little Rock, and R. G. Morris, Hot Springs.

Little Rock was selected as the next meeting place, the date to be announced later.

Several resolutions were adopted. A resolution was unanimously passed to uphold the prohibition act. No pharmacist will dispense whiskey under any circumstances to be used as a beverage.

A resolution favoring the enactment of a price standardization act was also adopted. The metric system was the subject of one resolution adopted by the convention. The resolution petitions Congress to adopt the metric system one year after a law to that effect is made. It is said that a vote of business houses totaled 58,000 in favor and less than 600 against the metric system.

EDELBLUTE HEADS KANSAS DRUGGISTS

The following officers were elected at the recent convention of the Kansas Pharmaceutical Association held in Ottawa: President, Nathan G. Edelblute, Topeka; first vice president, W. H. Lightstone, Arkansas City; second vice president, Otto H. Romel, Waterville; secretary, D. F. Deem, Stark; treasurer, John Schmitter, Gypsum City. Prof. L. E. Sayre, Kansas University, was named librarian again. A list of ten eligibles was selected from which Governor Allen is to name a member on the state board of pharmacy.

The ladies auxiliary named the following officers: Mrs. R. B. Bird, Winfield, president; Mrs. H. B. Brombacher, Ottawa, vice president; Mrs. Edward Dorsey, Ottawa, secretary; Mrs. W. D. Mowry, Kansas City, treasurer.

N.W.D.A. MAKING RESERVATIONS

Indications point to a very large attendance at the Convention of the National Wholesale Druggists' Association, which will be held in Cincinnati next October. Lee Wiltsee, chairman of the committee of arrangements and entertainment, says that more than two hundred and fifty hotel reservations have already been made, and that all the better double rooms at the Hotel Gibson, the headquarters hotel, have been assigned. He suggests that in writing for reservations, members who desire double rooms had better express their preference for the Hotel Sinton, which is directly across the street from the Gibson and is an equally good hotel in every respect.

N. A. R. D. TO MEET IN ST. LOUIS

An elaborate program has been arranged for the 22nd annual convention of the National Association of Retail Druggists, which is to be held in St. Louis on September 20 to 25 inclusive. As St. Louis is the birthplace of the organization, it is believed that this year's meeting will be the most important convention the association has ever held. Besides the regular convention program, papers and lectures will be presented by men who are authorities in their particular lines. An exhibit of drugs and chemicals is also planned which promises to be the most complete and comprehensive display of this character ever assembled, a special feature being a display of growing medicinal plants arranged by the St. Louis College of Pharmacy and the Missouri Botanical Gardens under the direction of Dr. H. M. Whelpley.

Another feature will be the Historical Display, also under the direction of Dr. Whelpley, which will include the "Medicine Cabinet" of the late Henry Shaw, founder of the Missouri Botanical Gardens, and many other rare exhibits.

A special program for the entertainment of the women accompanying delegates is planned by the St. Louis Chapter, W. O. N. A. R. D., of which Mrs. A. W. Pauley is president, Mrs. A. Ludwig, vice president, Mrs. Pieper, secretary, and Mrs. F. Habermann, treasurer.

Delegates are urged to make their reservations early. Dr. Charles E. Caspari, chairman of the Hotel Committee, reports that approximately 300 reservations were received before July 1, and O. J. Cloughly, chairman of the Exhibit Committee, states that the large number of exhibitors who have already taken space assures the success of the Exhibition feature of the Convention.

AMERICAN REGISTERED PHARMACISTS

San Francisco was chosen as the 1921 meeting place and Oakland as the convention city for the following year at the closing meeting of the annual convention of the American Registered Pharmacists held at the Angelus, Los Angeles, Cal., on July 7. Officers for the ensuing year were also elected as follows:

President, J. S. O'Callaghan of San Francisco; first vice president, L. Henry, Los Angeles; second vice president, F. X. Green, Portland; secretary, Phil Weis, San Francisco; treasurer, J. A. Besby, San Francisco; board of directors, Fred Driscoll, Ed Reilly, Charles Large, Fred Lions, Ed Thomas, L. G. Gelinas, R. Putebaugh, T. Lenehan and M. Hale.

The association adopted a resolution requesting the Legislature to pass a prerequisite law. At the present time the State pharmacy law permits the Board of Pharmacy to register pharmacists by reciprocity with boards of other States. This the members of the association oppose and they want the law amended so that unless the applicant is a graduate of an accredited school of pharmacy he must pass an examination by the board of pharmacy when he applies for registration.

Peter Van Schaack & Sons, wholesale druggists, known throughout the country as the "Old Salamander Drug House," Chicago, announce the promotion of Wm. H. Clough, one of their employees, as secretary of the company. Mr. Clough has been associated with the house in different capacities for the past twenty-five years.

Schools and Colleges

PURDUE UNIVERSITY

The Purdue University School of Pharmacy has compounded more than 3,600 prescriptions during the past school year, the work being done by senior students under the direct supervision of Prof. C. O. Lee, a registered pharmacist. All the prescriptions were for members of the student body. Each student, on entering the university, pays a health fee of $1. This entitles him to free consultation with the university physician and for medicine dispensed by the school of pharmacy. The latter feature was started a little over two years ago and in that time the pharmacy students have compounded 8,300 prescriptions. When the service was first inaugurated, the number of prescriptions was only .7 per student and at the close of the present school year it had reached 1.5, indicating a bigger part is being played by the school of pharmacy on student health.

Beginning with June, 1922, the School of Pharmacy will grant a Ph.G. degree for successful completion of the two year course. The change from the Ph.C. degree, as now given for this course, is made in order to conform with the requirement for degrees adopted by the American Conference of Pharmaceutical Faculties. The conference requires the completion of a three years' course to entitle a graduate to a Ph.C. degree. Such a course is contemplated at Purdue and may be offered later.

PITTSBURGH

At the recent commencement exercises of the Pittsburgh College of Pharmacy held in Soldiers' Memorial Hall in conjunction with the general commencement of the University of Pittsburgh, degrees were conferred on the following students;

Graduate in Pharmacy: Rawle Allison Alloway, Anthony Aquara, John Lee Austin, Merl William Baldwin, Joseph Balogi, Paul Quinn Barclay, James Henry Bell, Fred Gregory Canavan, Albert Arthur Custer, Lawrence Joseph Dinkel, Margaret I. Fogarty, Edward Joseph Freeauf, Ralph Alton Gibson, Walter Roy Gramling, John McCleery Hanna, John Adams Heagy, Ellery Eleazar Higgon, William Penn Hoover, Jr., Elizabeth W. Hurst, Donald Carl Jefferson, Clifford Gustaf Johnson, Henry Barnard Johnson, Lacy Elmore Johnson, Alexander Kantar, William Benjamin Keppie, George Louis Kiefer, Andrew Kramer, Charles Alexander Kramer, Ralph Alfred Kuhn, Russell Breckenridge Liken, James Watson Lutton, Richard Earl McAbee, Walter Emmett Means, Benjamin Middleman, Helen Blanche Miller, John David Milligan, Samuel R. Morgan, Charles Richey Morrison, Helen Elizabeth Nahar, Helen Edna Nied, Robert Stephen O'Brien, Scott Paisley, Jr., Richard Hunley Pettis, Casimir Francis Pillart, Norman Price, Richard Vaughn Pryce, Paul Hanson Ross, Miles Francis Rupert, Clarence Edward Showalter, Harry Alvin Sloan, Goldie Snyder, William Koofer Stimer, Hans Jacob Strauch, Mitchell Suchy, Otto Edward Swenson, Guy Halferty Trimble, Thomas Edward Trimmer, Rita Troilo, Michael Sylvester Wargofchik, Clarence Earl Watson, DeWitt McGregor Watson, Norine Webster, Charles Jacob Weinberger, Louis Weiner, James Stephen White, Harry Otto Wigle, Leo Lincoln Williams, Earl Kennedy Wilson, Alphonso Jacob Winters.

Pharmaceutical Chemist: Albert E. Baier, Burton Louis Craig, Clarence Greenwood Earlin, William Phelan.

Certificate of Proficiency in Materia Medica and Pharmacy: Carline Annette Davis, John Henry Davis, Harry Moore Landis, Besse Violet Swartz, Florabel Jean Wood.

The theoretical pharmacy prize of membership in the A.Ph.A.; Willet's prize, membership in the Pennsylvania Ph.A., and Beal scholarship to the senior student attaining the highest average in all branches were awarded to Robert Stephen O'Brien; membership in the A.Ph.A. offered as prizes for excellence in work in certain subjects were awarded to the following: Chemistry, Goldie Snyder; Pharmaceutical Products, Ralph Kuhn; Pharmacognosy, Helen Edna Nied; Materia Medica, Paul Hanson Ross.

The commencement address was delivered by Evans Woollen, president of the Fletcher Savings and Trust Co., of Indianapolis.

UNIVERSITY OF MICHIGAN

Dr. Henry Kraemer, professor of pharmacognosy and dean of the College of Pharmacy, University of Michigan has resigned his position on account of failing health and will take a complete rest. He is now sojourning at Mt. Clemens, Mich.

Dr. Kraemer assumed the chair of pharmacognosy made vacant by the death of the late Prof. Julius O. Schlotterbeck in 1917, coming from the Philadelphia College of Pharmacy where he held the chair of botany and pharmacognosy for many years. Last year he was appointed dean of the College of Pharmacy to succeed Dr. A. B. Stevens, who resigned on April 10. Under the deanship of Dr. Kraemer the College of Pharmacy during the past year has been marked by very great progress not only in attendance but in income to the University. There has been an increase of one hundred per cent in income and about the same in the number of students. Three students have obtained their Master's degrees and their theses which will shortly be published, reflect great credit upon them and the University. In addition to the provisions made by the regents Frederick Stearns & Co. have established a post-graduate fellowship of $1,000 for a fellow in the study of medicinal plants.

The summer session of the College of Pharmacy opened on June 28 and will continue until August 20. The courses offered are in charge of Professors C. C. Glover and A. F. Schlichting.

IOWA UNIVERSITY

Commencement exercises of all the colleges of the University of Iowa were held on June 15. George E. Roberts, a native of Iowa, formerly director of the mint but now vice-president of the National City Bank of New York, delivered the principal address, his subject being "Supremacy of Economic Law." On Sunday June 13 the graduates listened to the baccalaureate address by Rev. John Howard Mellish of New York.

The following graduates of the College of Pharmacy received degrees; Graduate in Pharmacy: Lynus V. Carter, Montezuma; Myron D. Deniston, Oxford Junction; Clarence C. Hazard, Iowa City; Lewis C. Hodoval, Oxford Junction; Ralph A. Jones, Gilbert; Ralph C. Lands, Slater; Henry M. Marlow, Jersey City, N. J.; Carl A. Moser, Humeston; William M. Pinkerton, Missouri Valley; Edwin A. Nixon, Burlington; Ben C. Rogers, Winterset; John P. Sweeney, Waukon; Howard A. Watters, West Liberty; Milton P. Wilkinson, Marengo.

Pharmaceutical Chemist: Benjamin Greenblatt, Rock Island, Ill.; Edward J. Meister, Cedar Rapids; Florence I. Peterman, Iowa City; Frank L. Weber, Lyons.

A.PhA. Membership prizes were awarded to the following: Lynus V. Carter, senior student attaining highest rank in practical pharmacy; Charles A. Veach, junior student attaining highest rank in practical pharmacy; Clarence C. Hazard, senior rated highest in competitive examination in recognition and description of organic drugs; Scherling prize A.Ph.A. membership, senior ranking highest in chemistry, Lynus V. Carter; Lindly prize (Britton & Brown's "Illustrated Flora"), William M. Pinkerton, highest average in vegetable microscopy.

The women of the college and women pharmacists of Iowa City were recently entertained informally by Professor Zada M. Cooper.

CINCINNATI

At the 48th annual commencement exercises of the Cincinnati College of Pharmacy, held in the college building in Cincinnati on Thursday, June 3, the degree of Doctor of Pharmacy honoris causa was conferred upon Professor John Uri Lloyd, Dr. Walter D. Creise, dean of the college, and Caswell A. Mayo, formerly of New York, but now associated with the William S. Merrell Chemical Company.

Diplomas were issued to the following graduates:

Master of pharmacy: Edward H. Rencing.

Pharmaceutical chemist: Signund A. Birnbaum, Chester L. Bryant, Joseph A. Farre, Robert A. Farre, Myrtle M Hay, Otelia B. Hunter, Frederick V. Igler, Bernice Koble, Jordan T. Olcott, Juan E. P. Palmero, Matilda P. Palmero and Martin Schneble, Ph.B.

Bachelor of pharmacy: Paul Clayton, Walter C. Elbert, Christina M. Farina, Walter J. Hoffman, Arthur J. Kemnath, Leonard L. Layne, Jacob A. Leibfritz, Frank McGetchin, Herbert G. Pick, Edward H. Plogman, Jr., Carl H. Reid, Elizabeth B. Reif, John H. Westerman, George Wipper, and Howard C Yount.

Certificate: Hursey B. Carlisle, Harold F Hoover, William Naefach, Catherine M. Byrne, Walter P. Roth, and Herbert N. Stuart.

Carl Vogeler, of the Alfred Vogeler Drug Co., delivered the address to the graduating class.

UNIVERSITY OF MINNESOTA

At the commencement exercises of the University of Minnesota, which also included the 26th annual commencement of the College of Pharmacy as a part of the university, President-elect Cofman delivered the address on "Good Citizenship." The address constituted a powerful argument for higher pharmaceutical training Retiring president Dr. Marion L. Burton, conferred the degrees. A new departure this year was the distribution of the diplomas through the Registrar's office after commencement, the method having been voted upon favorably by the students themselves. By distributing the diplomas in this way the exercises were completed in less than two hours as against about three hours heretofore.

Degrees were conferred on twenty students of the College of Pharmacy, as follows:

Graduate in pharmacy: Ray M. Amberg, George E. Lane, and Royal E. Townsend, all of Minneapolis.

Pharmaceutical Chemist: Antoinette Aldes, St. Paul; J. Blanchette, Anoka; C. M. Chambers, Minneapolis; Beatrice Choudek, Seaforth; Sara B. Cohler, St. Paul; O. W. Gilbert, Waseca; G. B. Hovland, Dawson; Bert Langland, Zumbrota; E. Malerich, Little Falls; C. N. Petterson, Minneapolis; C. V. Netz, Owatonna; E. Schiesser, Minneapolis; Esther Spetz, Bismarck, N. D.; Anne Siperstein, Minneapolis; Vivian Vogel, Minneapolis; Sigurd Goldner, Minneapolis.

Bachelor of Science in Pharmacy: Margaret Boothroyd, Minneapolis

The college was thrown into great sorrow when one of its seniors, Sigurd Goldner, passed away on May 23, He was ill only a very short time. His classmates and several of the faculty attended the funeral and floral offerings were sent. He attained a very high degree of scholarship as a student, and on account of his excellent standing, the faculty recommended that he be given, post obitum, the degree for which he matriculated, a recommendation that was approved by the President of the University, who conferred the degree on Commencement day.

C. Winzenburg, '21, Granda, Minn., won the 1920-21 Minnesota Ph.A. Scholarship prize of $90 which becomes payable during his senior year.

At the twenty-fifth annual meeting of the Alumni Association of the College of Pharmacy held at the Men's Union on the evening preceding the commencement, all of this year's graduates were made members of the association, and all were present as guests of the organization. The association conferred a distinct honor upon the new alumni by electing C. V. Netz as president, and C. W. Guilbert as representative to the General Alumni Council. Rasmus Bartleson, '14, was elected secretary. The association ratified all previous business done by the Memorial Committee appointed last year for the purpose of placing in the College Halls a memorial to the graduates and students who served in the forces of the United States and its allies in the World War The day closed with an All-University Alumni torch parade on the campus.

The medicinal plant garden is in an unusually excellent condition and promises to yield a very fine crop.

Charles V. L. Netz, '20, was appointed assistant instructor in pharmacy for the ensuing year, and Messrs. Lark and Winzenburg were reappointed as student assistants.

Maria Sanford, the best known and loved woman in Minnesota and connected with the University for many years, passed away recently at the home of Senator Knute Nelson at Washington, D. C., and the University devoted one of its convocation periods to memorial exercises in her honor. She had always been more or less interested in the women pharmacy students and the College of Pharmacy will always hold her name in grateful memory.

VANDERBILT DROPS PHARMACY SCHOOL

Nashville, Tenn., July 10.—Discontinuance of the Vanderbilt school of pharmacy "until State laws and other conditions make it possible for a professional course of high grade to be carried on with success" is announced by the university, following action by the board of trust at its annual meeting.

Dr. E. A. Ruddiman, dean of the school of pharmacy, will go to Detroit to accept a position in the analytical research department of Parke, Davis & Co.

In announcing the discontinuance of the pharmacy department indefinitely the Vanderbilt Alumnus will say editorially in its forthcoming issue:

"The future of the school of pharmacy has been under consideration by the faculty for months past, and was further considered with unusual care by the board of trust at its recent meeting There were two propositions before the board. One involved distinct increase in requirements and a lengthening of the course to three or four years The second proposition involved discontinuance of the school at the present time.

"No one was willing to see the school longer retained for the purpose of giving drug clerks a training of one or two years.

"The history of the past is a story of long-continued effort to elevate the professional standard of pharmacy. In this struggle the university has not had the support of state laws, nor has it always had the encouragement of state associations of druggists.

"Under present conditions the trustees decided that the old situation could not be longer maintained. The board of trust, therefore, reluctantly decided to discontinue the school of pharmacy until state laws and other conditions make it possible for a professional course of high grade to be carried on with success."

Educational Department

Devoted to Information, Criticisms and Suggestions on Pharmaceutical Topics of Special Interest to Era Course and Other Students.

Conducted by C. VERNE NICHOLS, Ph.C., B.A., M.S., Director of the Era Course in Pharmacy.

DERIVATIVES OF SULPHUR ALCOHOLS

The question, "What official substances are made from the sulphur alcohols?" is asked in Part 31 of the Era Course. In sending in recitations some students have given incorrect answers or have omitted answering the question completely because they have failed to understand just what was wanted. The correct answer, of course, would state that the substances are sulphonal and trional, which are official under the names of sulphonmethane and sulphonethylmethane, respectively, as is stated in the Lecture. While the Pharmacopoeia does not state in so many words that these substances are derived from the sulphur alcohols, a brief study of the chemical formulas will show that they are prepared from a mercaptan, another name for an alkyl hydrosulphide. Sulphonal may be prepared by treating acetone with ethyl mercaptan and oxidizing the resulting salt with potassium permanganate, while trional, which contains the ethyl group in place of one of the methyl groups of sulphonal, may be prepared by treating ethyl methyl ketone with ethyl mercaptan and oxidizing the resulting salt in the same manner as in the preparation of the other derivative. Both of these substances are used as hypnotics in 12-grain doses.

OILS ESSENTIAL AND FIXED

By the distillation of the blossoms, flowers and fruits of many plants with steam, is obtained a class of products known as the essential or volatile oils. It is rarely that these oils consist of one substance. As a rule they contain a number of closely related compounds, the terpenes and camphors, although esters of these latter occur and, in a few instances, aldehydes and ketones.

The fixed or fatty oils are largely mixtures of the glycerides of the saturated fatty acids and should be carefully distinguished from the volatile or essential oils. The fixed oils belong in the aliphatic or methane series of derivatives, while the essential oils show cyclic or aromatic derivatives among their constituents. The essential oils also show a tendency to absorb oxygen on prolonged exposure to the air and to form resinous products.

Physically the essential oils are characterized by their entire volatility without residue, while the fatty oils are decomposed by heat before volatilization can be completed, and yield acrolein and similar products of decomposition.

EXPLAINING PHARMACY TO THE PHYSICIAN

In a communication received from a physician recently, he expressed his gratification at having had the opportunity of securing, through the Era Course, a good working knowledge of pharmacy in addition to his medical training. He found that his familiarity with the methods employed in the manufacture of pharmaceutical preparations and his knowledge of incompatibilities enabled him to write prescriptions with ease and accuracy, thus securing maximum results from the preparations and substances which he prescribes. It is not always possible for a physician to secure such a thorough training in pharmacy as in this particular instance, although most physicians would welcome the opportunity.

Pharmacists can do much to assist in this regard, and whenever a doctor shows a desire to absorb information of a pharmaceutical nature, every effort should be made to be of service to him. The manufacturer loses no opportunity to do detail work among physicians, explaining the merits of his line of goods and pointing out the advantage of using his particular brand. This very practice is frequently put to good use by retail druggists who wish to emphasize to the doctor the quality of their work as pharmacists. Very often while the pharmacist or his clerk is engaged in manufacturing a pharmacopoeial preparation or engaged in compounding prescriptions the physician will step behind the case and without distracting the druggist from the details of what is being done, the doctor can be shown many operations that serve to educate him to better prescription writing. He is often willing to spend some of his leisure time reading well written literature on pharmaceutical topics. Every druggist and every clerk should be prepared to be of real service along this line.

RECENT ERA COURSE GRADUATES

Matriculation Number		Graduation Average
8,721	Gustave Buchholz	98%
10,398	Austin Dahl	96%
10,791	Marshall D. Delano	93%
9,916	Dr. W. R. Dove	98%
10,719	George C. Kelso	96%
10,764	Earle W. McConnel	98%
10,531	John E. Sawyer, Jr.	90%
10,778	Forrest Stephens	95%

QUERIES ANSWERED

Questions answered under this caption are of a general nature and are numbered consecutively, beginning with the issue of the Era for November, 1918.

403—What determinations described by the Pharmacopoeia require cognizance to be taken of atmospheric pressure?

Gasometric estimations or estimations where the Pharmacopoeia directs the strength of a product or chemical substance to be determined by the volume of a gas given off during a definite reaction.

404—What are the Pharmacopoeial products, the assay of which require atmospheric measurement corrections?

Amyl nitrite and spirit of nitrous ether.

405. What do you understand by the term "ignition?"

Ignition is the process of heating any solid or mixture of solids to a very high temperature in contact with the air for the purpose of causing chemical changes, the product sought being a fixed residue.

406. How would you define "incineration?"

Incineration, or reduction to ash, is a process of separation applied to vegetable matter, which consists in heating it to redness in open vessels, with free access to air, until all carbon has been consumed, the product sought being one or more of the constituents of the ash.

407. What is calcination?

Calcination is the process of heating inorganic substances to redness, without fusion, for the purpose of expelling volatile matter.

408. Name two official substances prepared by calcination?

Calcium oxide and magnesium oxide.

409 What is fusion?

Fusion is the process of converting a solid into a liquid by means of heat without the aid of a solvent.

410. Name an official substance made by fusion and why is the process employed?

Moulded silver nitrate; the silver salt is fused into a fluid mass to permit of its being poured into moulds, the silver nitrate on solidification taking the form of pencils or cones, according to the shape of the moulds.

411. Why is hydrochloric acid added to silver nitrate in the preparation of moulded silver nitrate?

By the addition of hydrochloric acid, part of the silver nitrate is converted into silver chloride which renders the resulting mass less brittle.

412. Define the term "assaying?"

Assaying is a term applied in pharmacy to the quantitative estimation of the active ingredients of a mixed product or drug.

413. Name five official drugs to which the process is applied?

Belladonna leaves, cinchona, hydrastis, opium and nux vomica.

414. Name five fluidextracts other than those derived from the drugs named in your answer to the last question which the Pharmacopoeia directs shall be assayed?

Fluidextracts of aconite, colchicum seed, guarana, ipecac, and stramonium.

415. Name five official tinctures which are standardized by assay methods?

Tinctures of aconite, cinchona, hyoscyamus, opium and physostigma.

416. What tinctures of inorganic substances are directed to be assayed?

Tincture of ferric chloride and tincture of iodine.

417. How many official tinctures are recognized by the Pharmacopoeia? By the National Formulary?

The Pharmacopoeia recognizes 54 tinctures, the National Formulary 49.

418. Name two pharmacopoeial tinctures made by direct solution?

Tincture of ferric chloride and tincture of iodine.

419. Name five pharmacopoeial tinctures made by maceration?

Tincture of aloes, asafetida, benzoin, guaiac, and kino.

420. Name five pharmacopoeial tinctures made by percolation?

Tinctures of aconite, calumba, cinchona, gelsemium, and strophanthus.

421. What National Formulary tincture is made by decoction?

Tincture of quillaja; it is made by boiling the drug in No. 20 powder with water for fifteen minutes, straining while hot, washing the residue with boiling water and after the mixed liquids have become cool, adding alcohol and setting the mixture aside for twelve hours, and then filtering.

422. Name five National Formulary tinctures made by direct solution?

Tinctures of caramel, ferric citro-chloride, ferrated extract of apples ipecac and opium, and pectoral tincture.

423. Name five National Formulary tinctures made by maceration?

Tinctures of aloes and myrrh, cactus grandiflorus, nutgall, paracoto and aqueous tincture of rhubarb

424. What National Formulary tinctures are directed to be assayed?

Tincture of ignatia and tincture of opium and saffron.

425. Mention all of the official forms of alcohol with the percentage of each?

Alcohol, a liquid containing not less than 92.3 per cent by weight or 94.4 per cent by volume of $C_2H_5.OH$; dehydrated alcohol, containing not less than 99 per cent by weight of $C_2H_5.OH$; and alcohol dilutum, containing from 41 to 42 per cent by weight or from 48.4 to 49.5 per cent by volume of $C_2H_5.OH$.

Obituaries

Henry Michaels, president of the Pioneer Wholesale Drug firm of Langley & Michaels, died at the Lane hospital, San Francisco, recently, after a brief illness. The aged capitalist had been suffering from a general decline. He was about 78 years of age and is survived by one son, C. F. Michaels, vice president of the firm of which his father was the head. Since the death of his wife, Mrs. Louisa Michaels, a short time ago, the elder Michaels had been failing. Michaels was, for the past twenty-five years, a resident of Alameda. He was a native of New York.

Mrs. Fletcher Howard, widely known to pharmacists throughout the country in connection with the American Pharmaceutical Association, of which she had been a member since 1905, died recently in Los Angeles, Cal., where she had lived since the death of her husband, the late Fletcher Howard, in 1903. Besides her interest in pharmacy, Mrs. Howard was active in many women's clubs, including the Southern California Woman's Press Club, the Friday Morning Club, and the Eastern Star. She was born in Maine, went to Iowa as a teacher and there married Fletcher Howard, a prominent druggist, who also served as State Pharmacy Commissioner for many years. During her residence in Des Moines, Mrs. Howard wrote for a number of newspapers, and founded the Chauncey Depew Woman's Club, with the purpose of fostering extemporaneous speaking by women, an organization which recently celebrated its twenty-fifth anniversary. About three years ago she suffered a stroke of paralysis. Her body was taken to Des Moines, Iowa, for burial.

Edwin M. Boring, well known to the drug trade, died at his home in Philadelphia on June 22. He was the son of John Dobbins Boring and Catherine McCurdy Boring, and was born at Lancaster, Penna., October 24, 1839. His boyhood days were spent in his home town where he attended high school. Thereafter, about 1857, he worked for a time in Welchen's Drug Store, in Lancaster. He served as a first lieutenant during the Civil War. After the war, September 4, 1865, he came to Philadelphia and entered the employ of Edward B. Garrigues, at 10th and Fairmont avenues. He was graduated from the Philadelphia College of Pharmacy in 1867 and in 1868 formed a partnership with Mr. Garrigues, which continued until the time of the latter's retirement in 1887, when Mr. Boring became sole proprietor. He continued this business until last year, when he disposed of it to his successor. Mr. Boring was a member of the American Pharmaceutical Association and attended many conventions. He was one of the organizers of the Philadelphia Wholesale Drug Company. He is survived by four children.

Women in Pharmacy

CONDUCTED BY EMMA GARY WALLACE

COLLEGE TRAINING FOR WOMEN

Woman's part in the practice of pharmacy is becoming more and more emphasized, and her preparation for such a vocation is an important subject of consideration, not only to herself, but to pharmacists generally. Besides the practical experience that is required, some professional education is necessary, and in line with this thought, Mrs. Mamie Fitzgerald, of Denker Ave., Los Angeles, makes the following points in an interesting article in the "California Retail Drug Journal' under the title of "Reasons Why I Am Attending a College of Pharmacy."

"A pharmacist without a scientific training, is like a builder without a knowledge of his tools; and it is only during his college course that he (the student) acquires skill and ease in handling the drugs, materials, and apparatus that he is to use in his work. He is taught to think accurately and to work with care and accuracy.

Second. "College students have opportunities in their lecture course to hear men who have acquired a very high degree of success, and having the course arranged as it is, giving a morning session only, the students have the opportunity to work in the afternoon, thus getting the commercial training at the same time they are being given the scientific side, thus enabling them to combine the two in a shorter time."

Third. "If such men as these (Carnegie, Merrill of the New Haven Railroad Company, Antisdel of the American Express Company) who have made a success of business, take such an attitude (favoring the college trained worker and thinker), it seems to me there can be no question but the college education must be the best for the pharmacist, who has a much greater need for a technical education."

Fourth. "Surely a man (or woman) can get more enjoyment out of life with a broad education. The college does not neglect this side of the question, and the student is encouraged to take an active part in social affairs, thus being taught to meet his fellow men on the same plane. In this way, he can make comparisons of the characters of those who have made a success in life. The broader the education, the more viewpoints one is able to take of the affairs of the world."

Miss Lorena F. Bigelow who also wrote on the same subject, summed up the facts as follows:

"The course at the College of Pharmacy does not involve only a study of medicines, but also touches on the chemistry of the official preparations. This adds interest to the course and furnishes a good beginnning for those wishing to major in this kind of work. Personally I am not sufficiently interested to spend the extra years necessary for completing it. I can readily understand how very essential it is.

"I believe that the pharmacy course is a good beginning for the commercial world. It enables a person to realize the true value of not only drugs, but also raw products of any kind, by teaching just how they are gathered or prepared for the market. In this day and age more is expected of a girl or woman than ever before, in the commercial world. The work that I have done in a drug store has taught me how important is the danger of caring for the sick. It has also taught me the value and responsibility of handling money. It has also helped me to be less dependent on my own folks.

"The desire to show others that I can do something a little different from the majority of girls, has perhaps influenced me somewhat. This would probably be termed pride, and helps a great deal toward making good. By fitting myself for something which I can always fall back on in case of necessity, I am not only doing myself justice but also those around me."

AROUND THE CIRCUIT

Congratulations are extended to Professor W. D. Day, dean of the University of Illinois, School of Pharmacy, and also the Secretary of the American and the Illinois Pharmaceutical Associations, upon the occasion of his recent marriage to Miss Marietta Carothers of Nebraska. Mrs. Day is an honor graduate of the Illinois School of Pharmacy of the class of 1920, and so will be able to share Professor Day's interests in ethical pharmacy. The wedding ceremony was performed at Saint Margaret's Church, Seventy-Second Street and Coles Avenue, Chicago, June 28. There was a delightful wedding trip to Washington, New York, and other eastern points. Best wishes are extended for future health, happiness, and prosperity.

Miss Louise, the oldest daughter of Mr. and Mrs. George V. Haering of the Haering West Madison Street Pharmacy of Chicago, has gone to take up her residence for a time in California. Miss Haering's health has not been of the best and she has a desire to try life in San Francisco, where she will have a fine position in one of the leading banks. Mrs. Haering is one of the active and enthusiastic W. O. women of the Chicago Chapter.

Much regret is expressed over the death of Mrs. Fletcher Howard who passed away recently in Los Angeles, Cal. She has long been identified with the American Pharmaceutical Association, being a prominent member since the year 1905, joining two years after her husband's death.

The affairs of Miss Anna B. Smedley of Cincinnati, have been settled agreeably to all concerned. Miss Smedley's financial difficulties forced her to go into bankruptcy some time ago, her independent venture in the drug business meeting with difficulties she was not able to surmount.

Sympathy is extended to the family of Mrs. Lucretia Ellen Staley who recently passed away at her Cincinnati residence. Mrs. Staley was the widow of Luke A. Staley of that city.

Mrs. Riess, wife of the proprietor of the Riess Pharmacy, is being congratulated upon her escape from what might have been a fatal accident as the result of a fire in the rear of her husband s store. Mrs. Riess fought the fire and was badly burned. We are happy to know that she is recovering from the injury and shock.

Sympathy is extended to T. S. Arnold, the Watseka druggist, father of Miss Ethel Arnold, for many years the lady druggist at the Kankakee State Hospital of

Watseka, Ill. Miss Arnold passed away recently after an illness of only a few weeks. She is survived by her father and two brothers, one brother being associated with his father in the drug business.

Among the recipients of pharmaceutical degrees in the different colleges are Miss Susan Russell Beetle, Miss Ruth Gwendolyn Davies, Miss Esther Eames Keogh, Miss Anna Marguerite Marcotte, Miss Dorothy Markels, Miss Beatrice Marie Molica, Miss Diana Steinberg, Miss Kathryn Zilg, from the Massachusetts College of Pharmacy; Miss Christina Maria Farina from the Cincinnati College of Pharmacy; Miss Marietta Lucille Carothers, Miss Ninetta A. Vella, Miss Ethel Marie Carlson, Miss Josephine Marion Dyniewicz, Miss Beulah Klein Chapman, Miss Rose Scheele Ruder from the University of Illinois School of Pharmacy; Mrs. Ruth Rose, Miss Rose S. Ruder, Miss Florence White, Sister Rosella Knepler, and Sister Lutyardis Moeri, who were successful in the Illinois State Board examination held Springfield, Ill.

Mrs. Harry J. Borst of Indianapolis, had the recent honor of addressing the Indiana Pharmaceutical Convention held at Culver, Ind., on the opportunities, privileges, and good work of the W. O. N. A. R. D.

Miss Anna Breen, of Breen Drug Store No. 2, New Orleans, La., one of the popular druggists of the Crescent City, has won golden opinions for herself on the part of the public, for her helpfulness in the service which she renders. Miss Breen is firmly convinced that pharmacy is the finest field in the world for women.

Cincinnati Chapter, No. 5, held its regular monthly business meeting, June 9th, at the Hotel Gibson. Election of officers which had been postponed from the May meeting on account of a severe rain storm, took place at this time, and resulted as follows: President, Mrs. E. V. Wiebold; vice president, Mrs. C. Wetterstroem; second vice president, Mrs. E. Linesch; secretary, Mrs. William Brittain; treasurer, Mrs. L. Blesi; Board of Control: Mrs. Wetterstroem, Mrs. Wagner, Mrs. D. E. Murphy, Mrs. Werner, Mrs. J. C. Otis, Mrs. Cramer. Mrs. Krause was re-elected chairman of the Entertainment Committee.

The Philanthropic Committee, consisting of Mrs. William Brittain, chairman, and Mrs. Igler, Mrs. Werner, Mrs. Wagner, Miss Dievinger, Mrs. Murphy, and Miss DeCoursey, together with a number of the members, enjoyed the spring meeting and tea given by the Cincinnati branch of the National Needlework Guild of America, on May 26th, at the Cincinnati Country Club. Mrs. Brittain read a report of this meeting at the June meeting at the Gibson.

Chapter No. 5 which is only one little unit of this branch of the Guild, turned in their quota for the year of one hundred and twelve garments. The entire Branch during the club year collected and distributed over fourteen thousand pieces, mostly children's garments. These were distributed to more than fifty charitable institutions. This Guild was formed in Philadelphia in 1885, the Cincinnati Branch being organized in October, 1891.

The regular monthly meeting of St. Louis Chapter No. 8 was held the fourth Wednesday in May, with Mrs. Pauley in the chair. The convention spirit having taken hold of the ladies, it was decided to have meetings all through the summer in some of the beautiful gardens of the members, with the surroundings of flowers, trees, and rustic buildings.

Two very helpful and inspiring talks were given at this meeting,—one by Mr. Pauley on the coming convention; and the other by Mr. Kiefer, chairman of the Advertising Committee, who spoke on the subject of Truthful Advertising.

On June 3rd, a farewell surprise was tendered to Mrs. William Ittner, at the Missouri Athletic club. Mr. Ittner has retired from the drug business and the family are making preparations to move to Highland, Ill. A delightful luncheon was served at one o'clock. Mrs. Pauley gave a splendid toast to which Mrs. Ittner responded most eloquently. Miss Uhlich and Miss Holscher also gave appropriate toasts.

Mrs. Ittner who has served as president, secretary, and on various committees, will be greatly missed by the St. Louis ladies. As a little token of remembrance, she was presented with a silver cream ladle. During the remainder of the afternoon, card games were enjoyed by the ladies.

The annual business meeting of Milwaukee Chapter, No. 19, was held at the Hotel Blatz, May 26th. Mrs. Herman Lambeck, the president, was in the chair. It was voted to donate $15 to the Martha Washington Home, also $15 to the French War Orphan supported by the Chapter for the last two years. Mrs. Sol. Eckstein, Chairman of the Educational Committee, and Mrs. E. Reauber, of the Entertainment Committee, gave splendid reports of the work of the past year.

The following officers were elected for the ensuing year: President, Mrs. Adolph Haise; first vice president, Mrs. W. M. Rheineck; second vice president, Mrs. E. Giesler; third vice president, Mrs. M. Meihbohm; fourth vice president, Mrs. Theodore Biedermann; recording secretary, Mrs. C. Farber; corresponding secretary, Mrs. L. Will; treasurer, Mrs. Theodore Bakke.

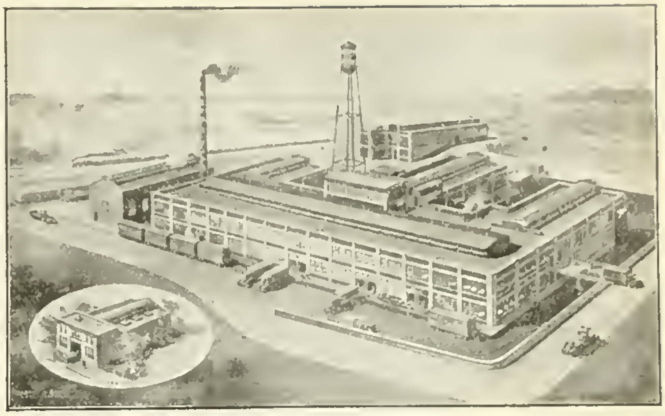
Mrs. Herman Lambeck, Mrs. Edward Reauber, and Mrs. Ad. Haise were appointed delegates to the National Convention; and Mrs. Theodore Biedermann, Mrs. B. Leidel, and Mrs. W. M. Rheineck, alternates. Mrs. Herman Lambeck, the retiring president, was presented with a handsome gift as a token of appreciation of her loyal and efficient service as president for the past four years.

Cleveland Chapter, No. 21, held its regular business meeting on May 28th. As this was the last meeting of the year, the time was taken up by reports of committees, and election of officers. The treasurer's report showed a substantial balance on hand with which to start next year's work. The Membership Committee reported a small increase in membership; also that almost every woman who is at all interested in the work of the W. O. N. A. R. D. has received an invitation to join the local branch.

Mrs. Francis gave a very complete report of the work done by the Philanthropic Committee throughout the year; and Mrs. Bauer also gave a comprehensive report on the work done by the Civics and Legislative Committee, which showed how much real good the women of the city are accomplishing. Mrs. Kohlmeyer's report of the Educational Committee was also very gratifying.

The following officers were elected for the ensuing year: Mrs. N. M. Fox, president; Mrs. J. Buckstein, first vice president; Mrs. Al. Maurer, second vice president; Mrs. Flandermeyer, treasurer. Mrs. John Bauer and Mrs. Hunter received the same number of votes for secretary, so it was decided to retain both, one as corresponding and the other as recording secretary.

LEHN & FINK'S NEW FACTORY



As announced some months ago, Lehn & Fink, Inc., of New York, purchased a tract of twenty acres of land, located on two trunk line railroads at Bloomfield, N. J., for the erection of a manufacturing plant adequate to the demands of their developing business. The new plant, a bird's-eye view of which is shown in the accompanying cut, is equipped with every modern time and labor-saving device, the building plans calling for the installation of everything needed to facilitate maximum production. Exceptional shipping and receiving facilities have been provided, graded roadways making it possible to load trucks from the second story without the use of elevators.

Power is furnished by oil-burning boilers. A separate building houses a box factory and a fully equipped machine shop. Extensive research and testing laboratories occupy a prominent place in the plant and these are utilized to the highest degree for putting all Lehn & Fink merchandise through the most rigid tests and examinations. The output of their two widest known specialties—Pebeco Tooth Paste and Lysol Disinfectant—the manufacturers state, has been greatly increased in these new manufacturing quarters.

DAVIS & LAWRENCE CO.'S NEW HOME

The Davis & Lawrence Co., manufacturing pharmacists, announce their removal to their new home, Bronx Boulevard and 238th street, New York City, near the Woodlawn station on the Harlem Division of the N. Y. Central Railroad. The new building, which is to serve as their home, is of steel and concrete construction, faced with Harvard brick, It is four stories high, with large steel windows which provide for unobstructed light on all sides. The building is more than 250 feet in length and 50 feet in width, and planned on the most approved lines to meet the company's growing business. Every facility has been provided in the arrangement of laboratories, manufacturing equipment and for the handling and shipment of stock.

It is nearly sixty years since the Davis & Lawrence Co. commenced business in Montreal, Canada, as a branch of Perry Davis & Son, of Providence, R. I. The company next established an American house, which later absorbed the Perry Davis business and quickly developed it to large proportions. The company has made five removals since 1895, when it first became established in New York, always into larger quarters, until the construction of the factory just opened. The company's products are in demand in all of the chief markets of the world.

BOOSTING PEROXIDE SALES

A New York druggist and a Philadelphia druggist were discussing the peroxide business during an in-between session at the recent Washington convention of the A. Ph. A.

"I never realized," said the New Yorker, "what a big factor display is in selling peroxide until a few months ago. I ordered a quantity of the four-ounce size from Parke, Davis & Co. They sent me a window display. I placed three dozen peroxide in the window along with the display. In addition to that I stacked a couple of dozen on the counter. My sales at once began to show an upward trend; they more than doubled while the display was working. I really believe," he concluded, "that the reason the 'five-and-tens' sell so much peroxide is because they display it. They keep peroxide before the eyes of their customers."

McK. & R. ENLARGE EXPORT OFFICES

McKesson & Robbins, Inc., have just taken over the building at 152-154 William street adjacent to their main offices at 91 to 97 Fulton street, New York, for the purpose of giving adequate space to their growing Spanish Export Department. Four additional floors have been occupied and direct connections cut through to the Fulton street building, so as to permit of easy access to and from the main office.

McKesson & Robbins have been actively engaged in the Central and South American trade for fifty years and have first hand knowledge of the characteristics of the Spanish American business man. J. Stebe, who has been with the house for the last twenty-eight years, is in charge of the department. He possesses a thorough knowledge of the various branches of the business, has given much time to the study of foreign languages, and correspondence is always conducted in the language of the country from which orders and letters are received. Trade connections have been opened up with all of the principal countries in the West Indies and South America, including far off Patagonia. Mr. Stebe has given close attention to the requirements of Spanish America, and the success of the department is largely due to the policy of giving the customer just what he wants and in the manner in which he wants it.

CASH REGISTER WITH NEW FEATURES

A cash register which differs from any machine ever before designed and prints an itemized and totaled statement, has been placed on the market by the National Cash Register Company. The new machine saves time and work of both clerks and customer, and gives the merchant protection and information about his business. With the new machine, each item is registered separately, and by turning an operating handle, a receipt is printed and issued which shows the printed amount of each item sold and the total amount of the sale which has been added by machinery. The total of each transaction is also printed on a paper roll inside the machine.

There are other features that are found in all high-grade cash registers, such as adding counters to show the total amount of sales, the number of customers waited on, etc., while the amount of every item sold is shown between glass at the top of the machine. The itemized receipt, indelibly printed, prevents disputes regarding overcharge for any item or for the total amount, and identifies by price any item that may be returned for exchange. It also makes public the record of the amount paid for every article bought by the customer, thus removing temptation from employees, because all amounts must be correctly registered. Clerks are finding the new machine a valuable aid in increasing their efficiency, and it has solved many difficult problems for merchants. Although on the market but a few months, this new cash register is in use in 44 lines of business.

ORDER DIAMOND DYES NOW!

Wells & Richardson Co. remind dealers that this is the "Diamond Dye" season and now is the time to place orders. A big advertising campaign is on, and you will be in hot water shortly if you haven't a big stock on hand. In each carton holding a dozen packages of "Diamond Dyes" you will find a Dealer's Order Blank, making it easy for you to order and obtain one dozen packages free and 5% discount with each twelve dozen order. To be "just-out-of" Diamond Dyes when demand will be more than doubled, is to rob yourself of sure profits.

Get your order to your wholesaler immediately. Wells & Richardson guarantee the biggest "Diamond Dye" year ever known. Big advertising every day and everywhere is telling women to "Dye right" and this slogan of theirs means "use only" Diamond Dyes because there is only one Diamond Dye for silk and wool and another Diamond Dye for cotton, linen and mixed goods." The advice is also given—Don't be caught short! Order plenty of blues, blacks and browns in both wool and cotton. Housewives are dyeing personal apparel, draperies and all kinds of material as they never did before. Therefore the advice: "Get that dealer's order blank to be found in each dozen carton and use it quick."

BENDERSCHEID CO. INVITES N.A.R.D.

Strikes and labor grievances are unknown words in the plant of the Benderscheid Manufacturing Company, 2800 North Ninth Street, St. Louis, the only firm in the United States which manufactures druggists' fixtures exclusively. This pioneer firm has just completed its twenty-sixth year of substantial growth and progress. While numerous wood-working plants and kindred industries in St. Louis suffered the early part of this year, it was a subject of comment that labor stayed on the job and kept the wheels turning without an hour's loss at the Benderscheid plant. The help employed at the plant is of a highly skilled nature and there is an unusually close and friendly feeling between the employer and the employee.

"The fact that we have had no strike troubles does not mean that we are able to fill orders as fast as they come into our shop," said Herman Benderscheid. "We are situated like a great many other manufacturers at present in that we are behind in filling the orders. Scarcity of raw material, transportation and other factors all contribute in working a hardship, but we have just closed the biggest year in the history of our business and are optimistic concerning the future."

The Benderscheid plant occupies 48,000 square feet of floor space, which is the outgrowth of an original shop containing but 20x40 feet. The sole owners and proprietors are Herman J. Benderscheid, father, and his son, Herman Benderscheid.

The company has extended an invitation to the delegates to the National Association of Retail Druggists to visit the plant during the annual convention which will be held in St. Louis in September.

GOVERNMENT NEEDS DRUGGISTS

The United States Civil Service Commission announces an open competitive examination for druggists on August 20, the examination to be held at various places throughout the United States as named by the Commission. Vacancies in the Public Health Service at $60 to $100 a month and maintenance (room, subsistence, and laundry), and vacancies in positions requiring similar qualifications, at these or higher or lower salaries, will be filled from this examination, unless it is found in the interest of the service to fill any vacancy by reinstatement, transfer, or promotion. The entrance salary within the range stated will depend upon the qualifications of the appointee as shown in the examination, and the duty to which assigned. Appointees whose services are satisfactory may be allowed the temporary increase granted by Congress of $20 a month. Applicants must be graduates of recognized colleges of pharmacy.

Further information and application blanks may be obtained from the Civil Service Commission, Washington, D. C., or the Secretary of the United States Civil Service Board in the various large cities throughout the country.

EXPOSITION OF CHEMICAL INDUSTRIES

Arrangements have already been completed for the Sixth National Exposition of Chemical Industries, which is to be held in the Grand Central Palace, New York City, during the week of September 20 to 25 inclusive. Already 370 exhibitors have been engaged for the coming Exposition, which is more than were present at the last Exposition in Chicago. A feature of the exhibition now being arranged is a symposium on chemical engineering. Symposiums have also been scheduled on fuel economy, materials handling, and industrial management, the program for which includes the names of many leading authorities in the respective fields. Moving pictures will play a big part in these demonstrations, and the series of films to be exhibited will far surpass anything before attempted in this line.

During the past five years, the chemical show has grown into an educational institute of the first magnitude for the chemist, the chemical engineer, and the student of chemistry. Whatever contact one may have with the field of chemistry, it is certain he will find something to interest him in this exhibition.

MERRELL CO. AWARDS SERVICE PINS

The annual picnic of the Wm. S. Merrell Chemical Co. recently held at Woodland Park, near Cincinnati, was attended by the entire office and laboratory forces and many of the members of their families. The company not only provided the car fare and an abundant luncheon but also furnished a series of appropriate prizes for the athletic contests which took place.

One of the interesting features of the meeting was a vaudeville performance given by the employees and assisted by an excellent rag-time orchestra which furnished music for the dancing. Service pins were awarded to four employees who had been with the company 10 years and two who had completed 5 years of service. A handsome Rookwood plaque with the title of "A Summer Idyl," painted by E. Bries, was presented to Charles G. Merrell, president of the company, as a token of the affection and esteem in which he is held by all the employees.

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A BINDER
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Drug Stores and Sanitation

An interesting sidelight is thrown upon the sanitary condition of drug stores in Indiana in the figures recently published in the monthly bulletin of the State Board of Health. The figures are taken from the report of State Food and Drug Commissioner I. L. Miller, who states in connection therewith that a general improvement in the sanitary condition of these establishments is indicated by the diminishing number of condemnations entered by inspectors against violators of the state laws.

Of the 97 drug stores subjected to sanitary inspection, 2 were found to be "excellent," 60 were rated as "good," 29 as "fair," and 6 as "poor." While an outline of the methods of inspection employed or the standards upon which the gradings were made are not given, it is reasonable to suppose that these were uniformly applied to all the stores inspected, as also the further supposition that the figures probably represent the sanitary conditions of all the drug stores in the Hoosier State, approximately 2,000 in number.

In any event, the figures are suggestive of thought. There are some in the trade who will say that the sanitary condition of all drug stores should be very high when graded by any system of marking, but the reports of inspectors, even those not connected with boards of health, indicate that such is not always the case. This ought not to be, for of all places where business is to be conducted, the drug store should express the basic principle of sanitation—cleanliness. A store may be handicapped by lack of architectural beauty or decorative "trimmings," but if it be kept clean, well ventilated, well-lighted and in a sanitary condition, no allegation can be made against the pharmacist for neglecting the personal application of the fundamental teachings of his profession.

Probably at no time has the druggist had so great an opportunity to tell the people what he knows about sanitation. The world war has furnished an object lesson of what sanitary methods have accomplished and of the benefits to be derived from their application. To take advantage of this state of affairs it largely depends upon the druggist himself to create and bring to the surface the demand for his services as a practical sanitarian. The possibilities in this direction are not alluring if he permits his own premises to be graded by the inspector as insanitary. He can stock up with chlorinated lime, copperas, or any of a number of disinfectants which might be called for, yet if his own establishment lacks the appearance implied by the application of such knowledge, he places himself in the category with the individual who fails to practice what he preaches. Disinfection, sterilization and other related methods are now insisted upon by all physicians and health authorities, and the pharmacist as a link in this chain of accomplishment should see that his store reflects the highest attainment in this direction.

Registration and Citizenship

A proposition to restrict the granting of licenses as registered pharmacists to citizens of the United States only, providing they comply with certain named requirements and pass an examination by the board of pharmacy, appears in the draft of a pharmacy bill which has been prepared for introduction in the Legislature of the State of Washington at the coming session. Apparently none but Americans are to be put on guard, so far as pharmacy is concerned, although no qualification of citizenship is stated for those seeking registration as assistant pharmacists who, however, may be left in charge of a pharmacy only during the temporary absence of a registered pharmacist, in no case to exceed forty-eight hours at one time, nor more than fourteen days during one calendar year.

Whether such an enactment antagonizes any of the treaty rights guaranteed to resident aliens by our National Government, we are not prepared to say. In a few of the states, such a citizenship clause obtains, but in general, any person who otherwise qualifies may be registered without regard to his citizenship. But the proposition is of interest at this time as showing the trend of public opinion on the subject which, during the progress of the World War, received some attention, more particularly that phase of it which had to do with property rights of certain kinds. Even now in some countries foreigners are not permitted to hold land on the same conditions as subjects, while in other countries, this right is not accorded unless on condition of reciprocity. In some of the commonwealths of the United States residence and an oath of allegiance are required to become a landowner, while in other States, one can become qualified to possess land only on filing his declaration of intention of becoming a citizen. The proposition to restrict the granting of certificates as registered pharmacists to citizens only is therefore not so far away as it might appear.

Since our emergence from the World War many of our citizens have expressed a desire to secure a revision of our immigration laws in a manner that would restrict our national opportunities to desirable aliens only and on condition that such persons will declare within a reasonable period their intention of becoming naturalized citizens. In the practice of pharmacy there are probably no duties which could not be well performed by a qualified pharmacist of foreign allegiance, but this does not meet the desire of those who would reserve American opportunities for citizens only. As they see it, the free licensing of alien pharmacists does not fit into the general policy of national expansion.

Pharmacists holding alien citizenship and practicing their calling here have undoubtedly benefitted American pharmacy in the past. At the same time, they have received more than compensating advantages, else they would not have continued to reside here. The admission of this fact gives force to the argument that foreigners who come here to better their condition should become naturalized citizens, if they measure up to all prescribed standards. The proposal to restrict registration to citizens who qualify as pharmacists in the State of Washington would seem to be indicative of this growing spirit of nationalism.

Commercial Pharmacy in Colleges

Time was when courses pertaining to the business side of pharmacy had no place in the curriculum of the average college of pharmacy. Such a void no longer obtains, if we are to accept as evidence the catalogues and circulars of information the colleges of pharmacy are now sending out to prospective students, who are considering enrollment during the coming session. Reference to these catalogues indicates the prominence that is being given to instruction in all of the subjects pertaining to the business side of the drug store, by all of these institutions. As might be expected, the space devoted to the outline of such courses is not of uniform extent, but this does not lessen the importance of the evidence the catalogues afford.

The average catalogue as it now appears, seems to reflect the tendency of pharmacy to travel along commercial lines. In the average commercial course a wide variety of subjects are named, all appertaining more or less directly to the merchandising side of pharmacy, and ranging from the problems of financing a store, to the psychology of advertising and commercial correspondence. In some of the institutions, students are required to figure out the actual cost of preparations made in the laboratories on a working basis; to consider reasons for the variations in the cost of materials, and the relations of cost to quality, as governed by the demands of trade. As though this were not enough, there follows a consideration of the use of by-products, the correction of errors with a minimum of loss of material, economic methods of manufacture, etc., the effort being made on every side to impress upon the student, the fact that the pharmacist must be a business man as well as a professional adept at his art, if he is to attain the highest success.

Druggists need such training, and the fact that the colleges now offer such instruction is evidence that they have caught the full meaning of the present-day tendency in pharmacy as a business. Successful professional pharmacy can not flourish independently of commercialism. Returns from compounding prescriptions cannot be considered in their entirety without reference to the balance sheet of business, and no druggist can get the most out of his business life unless he has a thorough knowledge of the fundamentals of buying and selling and their relation to the important problem of reaching the topmost rounds of success.

Some Facts Concerning Camphor Farming

By EMMA GARY WALLACE

Few people realize the ambitious plans and preparations which have already been made in this country to the end eventually of furnishing our own market with its supply of native grown camphor.

This is as it should be for there is no reason why we should be dependent upon China and Japan and Borneo and other camphor-raising countries when our own soil and climate in the south are ideal for this purpose. We should strive to become as economically independent as possible and camphor is such a staple drug that it is an important—indeed, necessary—branch of production.

The Arlington Company, now one of the Du Pont American industries, has gone deeply into this subject and their faith in the future of camphor farming in the United States is so strong that they have purchased a tract of approximately 12,000 acres at Waller, Fla. This is to be merely the starting point in the development of a large camphor industry, and with the energy and financial resources of company back of the enterprise there is no reason to doubt that it will be a success. There are other camphor farms in the country, but the one at Waller is probably the largest acreage devoted to camphor production in the United States.

The first undertaking of this kind of any magnitude was fostered by the United States Department of Agriculture which purchased a tract of 3,000 acres near Palatka, Fla., thirty-six years ago. This camphor tract has thrived and today is a splendidly developed farm. The trees are planted in long hedge-rows, cuttings of the twigs are gathered once or twice a year according to growth and season, and distilled in accordance with the latest scientific methods. In this manner the life of the hedges is preserved and the product can be kept available with care, for many years.

The camphor tree is a long-lived one. In China trees are still lusty and strong at 500 years of age, so the industry is one with a future and not a short-lived affair.

This camphor tree, photographed in Kiangse Province, China, is centuries old. The limbs of the tree are so valuable that the owners prop them up with heavy timbers to insure against their breaking down during high wind-storms—Courtesy of the Dupont Magazine.

The illustration which shows a full grown camphor tree reveals it as of irregular and surprising growth,—a sort of mammoth vegetable octopus. These trees are so valuable that in the Orient families are principally interested in the joint ownership of trees. Sometimes the family and all their relations and friends to the extent of one or even two thousand people will have property rights in a single tree.

In China, a license must be obtained from the central government and also from the local authorities before a tree can be sold. When permission is obtained the proceeds are divided according to the equity which the various owners hold.

Asiatic nations have long known the therapeutic value of camphor.

It was introduced into Europe in mediaeval times by the Arabs among whom were skilled chemists.

The camphor gum is still obtained by somewhat primitive methods in the East. Steam is allowed to come in contact with the chipped wood and twigs of the camphor tree. The product of distillation by steam is then freed from volatile oil by draining and pressing and the crystalline mass remaining behind is purified by sublimation. The pure camphor with which we are familiar is colorless, transparent and crystalline, of a somewhat gummy nature. It melts at 175° C. and boils at 204° C. It is but slightly soluble in water but dissolves readily in alcohol, ether, chloroform, carbon disulphide and other organic liquids. It is readily pulverizable when moistened with alcohol, ether or chloroform.

Camphor has been prepared, synthetically, but for both quality and quantity we are still dependent upon the natural sources of supplies.

Camphor is extensively used at the present time in the manufacture of explosives, celluloid, and imitation ivory articles as well as medicine. It is more than probable that when our own camphor industry develops to the proportions which it undoubtedly will in the near future, that laboratory processes will be perfected which will reduce the expense of production and will eliminate some of the waste which now characterizes the camphor industry of the old world.

Japanese Insect Flowers

LIKE a great many other industries in Japan the cultivation of pyrethrum flowers and the manufacture of insect powder greatly increased during the war. Prior to 1914 the chief sources of supply were Dalmatia, Montenegro, and to a slight extent Persia and some parts of southeastern Europe. During the past four years, however, the world's supply has been produced in Japan. The first marked increase in production was in 1916, when the total weight of dried flowers reached 4,368,850 pounds, against 2,190,365 pounds in 1915. Before this period there was a gradual increase in production, but until the war stopped production in other countries this increase was not marked. The acreage under cultivation and the quantity of dried flowers produced in Japan during 1914 to 1919 were as follows:

	Acres	Pounds
1914	2,760	2,135,700
1915	2,800	2,190,365
1916	6,920	4,368,850
1917	10,712	6,845,208
1918	10,474*	7,720,000
1919	3,809*	2,479,680

*Acreage for 1918 and 1919 is based upon the average production in 1915, 1916, and 1917, no actual statistics being available.

It will be seen from the above figures that the production for 1917 and 1918 was very large, but that there was a great falling off in 1919. The centre of the insect flower production in Japan is the Okayama and Wakayama Kens (Prefectures) in the Kobe district, the exports being almost entirely shipped from the port of Kobe. The average size of Japanese farms is about 2½ acres, and the average field devoted to pyrethrum measures about one-third of an acre. These fields are uplands (as distinguished from paddy fields), and owing to their small size and the limited capital on which the farmers work, are entirely prepared and crop-harvested by hand. The seed is usually sown broad-cast, which of course necessitates very little cultivation, but it is also sometimes sown with drills and cultivated. The average production per acre is about 651 pounds. The plant is a biennial, dying out at the end of the second year, and its production prohibits the use of land for other purposes during the same year. On the other hand, grasses raised for straw braids are produced in addition to a food crop, so that the return per acre planted in grasses is greater than that for pyrethrum flowers. For this reason, as well as because of the shortage of foodstuffs in Japan, many farmers formerly producing pyrethrum are turning to straw for braids. The following statistics show the exports of dried flowers and insect powder from Japan for the six years from 1913 to 1918:

	Flowers, lbs.	Powder, lbs.
1913	350,225	210,012
1914	819,612	256,566
1915	2,058,090	309,664
1916	1,811,090	557,123
1917	3,330,672	671,218
1918	3,223,845	815,050

In 1913 the largest foreign purchaser of Japanese flowers was Great Britain, which took 184,930 pounds, while China purchased the largest amount of insect powder, 77,084 pounds. During that year the exportation to the United States amounted to only 30,376 pounds of flowers and 16,027 pounds of powder. In 1918, however, the United States was by far the largest purchaser of flowers, exports to that country amounting to 2,721,993 pounds, or 84 per cent of the total exportation. China, however, is still the leading purchaser of insect powders, exports to that country amounting to 206,682 pounds in 1918, while the export of powder to the United States amounted to but 120,949 pounds, or about 14 per cent of the total exportation. It is estimated that the decrease in acreage as a result of the failure to replant will cause a decrease in the 1920 production of dried flowers to approximately 1,411,000 pounds, which is less than the production in 1913. It is probable that several years will elapse before Dalmatia and Montenegro will again resume cultivation on anything like a pre-war scale, as the industry is reviving but slowly.—"Chemist and Druggist."

SIMON N. JONES RETIRES

Louisville, Ky., Aug. 21.—Simon N. Jones, for 52 years druggist of this city has retired from business. Mr. Jones is widely known throughout the drug trade of the country as the "Grand Old Man of Kentucky," and has been the recipient of many honors bestowed on him by members of the profession. He was an active association man before the National Association of Retail Druggists was organized and an officer of the Louisville Botanical Club and the Kentucky Druggists' Association before the days of the Chicago Veterans' Association, of which he is an honorary member. He has held offices in local, State and national organizations, and has always been one of the most active and enthusiastic supporters of the Louisville College of Pharmacy, of which he is president.

Malayan Drug Venders in the East Indies

IN JAVA, as throughout the entire Indian or Eastern Archipelago, the largest and most important system of island groups in the world, the Malay Peninsula and Madagascar, self-appointed healers and drug venders ply their trade, if such it may be called, the advice to the sick being very largely based upon superficial knowledge which is still further confused by superstition and prejudice. The doctrine of signatures and transmigration theories have always appealed to the East, and the native healer finds not only mystic characters of good or bad augury in the star under which one is born, but remedial properties for particular diseases from certain plants possessing peculiar markings. In others words, healing powers are ascribed to products belonging to the vegetable and animal kingdoms on account of resemblance to manifestations of diseases or diseased parts of the body.

Thus, a bright red mass, as red mold, is used to stop epistaxis or nosebleed. Diseases of the ear are cured by applying any object looking like an ear, as river snails, which, because of the form of their shells, bear some likeness to an ear. The snail is taken out of its shell, crushed, and the messy liquid thus obtained is introduced into the ear. Another harmless remedy, much favored in Central Java, is the hairy, fleshy leaf of the Aasen koeping-matjan, or tiger ear leaf, so-called because it looks not unlike the ear of a tiger.

The transmigration theory teaches that the actual or ascribed powers of certain objects are transferred to the patient who uses them. A tiger has a keen ear, therefore the deaf may be cured by using tiger ear leaves. In some districts of Java it is customary to give popped sondari worms to dancing girls when they have become hoarse after singing in their shrill, nasal fashion. As the sondari, a large earthworm, emits a shrill, high sound at night, it is given to the hoarse dancing girls to effect the transferrence of the much admired high note to the girls!

The natural resources contributing to the potential wealth of Java make it one of the most prized possessions of the Netherlands Government, and the pharmacist looks to that far-away island as the source of cinchona, cloves, nutmegs, pepper, benzoin, dragon's blood, indigo, and other drugs, but also as the source of sugar, coffee, tea, rice, cassava, cacao beans, wax, dyestuffs, timber woods, etc. But withal, Java presents to the student of ethnology and folklore much that is curious and interesting. The customs of the Malayan people differ in many respects from those of the Caucasian race, yet in daring and enterprise their history is replete with episodes as thrilling as any that have characterized the most famous seafaring nations.

Signatures and transmigration theories of the Javanese practitioner may excite our curiosity, but it is not so many centuries ago when Jewish and Christian physicians and theologians vied with each other to invent fantastic theories, for which they claimed the faith of the public. While it is true that a few of our own race are influenced more or less by the mysticism and superstitious practices of empirics, the majority are quite willing to accept the advice of the trained physician and to use rational medicines. In the photograph reproduced below is shown a native Malay medi-

Native Malay Medicine Dealer in Batavia

cine dealer of Batavia, his stock being characteristic of his profession and the remedies demanded by his clientele. In the foreground is seen a tiger skin, a reputed cure for stomach-ache; some coral, a cure for rheumatism; mussels for colds, and snails for treating diseases of the ear. The exhibit as a whole is in strong contrast with the advanced position occupied by the pharmacist of the United States.

Alcohol in Food Products

TREASURY Decision 3045, issued by the Commissioner of Internal Revenue under date of July 15, provides that intoxicating liquors may be used in the manufacture of such food products as may be approved by the commissioner upon obtaining permits therefor, but no permit shall be granted to any person other than a person engaged in the business of manufacturing food products for the purpose of market and sale and not to be consumed on or in connection with the premises where manufactured. Where intoxicating liquors are used in the manufacture of liquid food products, such as soups, or in frozen liquids, such as ice cream or ices or in preserving or flavoring fruits, such liquids, ice cream, ices, or the juice of fruits so preserved or flavored shall contain less than one-half of one per cent of alcohol by volume. In no case shall a permit be issued to a person conducting a hotel, restaurant, or other public place.

Any person desiring to use intoxicating liquors in the manufacture of food products must file an application (Form 1404), furnish bond (Form 1408 or 1409), and obtain permit as provided by article 3 of Regulations No. 60. In the application the applicant must state his place of business, location of factory, nature and character of the food products to be manufactured, the time he will begin to use such liquor, the purpose for which it is to be used (flavoring or preserving), kind and quantity claimed to be necessary in the manufacture of each unit, pound or quart of the product, the estimated quantity in each of such units when the finished product is placed on the market, the maximum quantity estimated to be so used during a period of 90 days, and the quantity of liquors so used during corresponding periods of the preceding year.

Liquors obtained for such purpose must be kept in a safe and secure place for storage, kept locked at all times and be placed in charge of a responsible and reliable employee, who alone shall have access thereto. A record is also required to be kept showing the kind and amount of liquor deposited in the storage room, the kind and amount withdrawn, together with the dates of each entry into or withdrawal from storage. Any undue withdrawals or loss of liquors so stored, or failure to keep the required records will be regarded sufficient grounds for the revocation of the permit. Persons holding permits to use liquors in the manufacture of food products may purchase and obtain liquor for such purpose upon filing application with the Federal prohibition director and obtaining permit (Form 1410).

The Editor's Correspondence

THE OLDEST ASSOCIATION HAS SPOKEN

Editor, PHARMACEUTICAL ERA:

Fifty years is a long time in the life of man but it is a short period in the life work of a state pharmaceutical Association. We have no way of determining the expectancy of life for such an organization, but the very nature of these associations seems to assure a long period of existence.

The first fifty years may or may not be the most successful years in accomplishment for a state pharmaceutical Association but they are certainly of vital importance.

The New Jersey Pharmaceutical Association has passed all of the diseases of infancy and established a record of half a century of useful activity. Other state associations will follow in close succession in reaching their golden jubilee. There is no exact formula for determining a man's character but we can summarize and formulate the work of an organization. It is none too early for many of the state associations to make plans for a celebration when they reach the half century mark. The souvenir volume issued by the New Jersey Association has proven an inspiration to some of the veteran pharmacists in the Missouri Pharmaceutical Association who are now arranging for systematic work in anticipation of proper observation of the Golden Jubilee in 1929, only nine years ahead.

Work will begin at once in gathering data, collecting pictures and recording personal reminiscences, written by surviving members of the convention of 1879 which organized the Mo. Ph. A. These men with stabilized lives will record history while they are able to make their contributions to the history of pharmacy in Missouri.

The Golden Jubilee meeting of the New Jersey Association should cause the historic instinct of pharmacists to assert itself and I look for a more general recognition of pharmaceutical history in the United States.

The members of the New Jersey Association found the fiftieth annual meeting at hand, almost without warning. The younger associations should awaken to the situation, so that the plans for the Golden Jubilee meeting can be matured without undue haste or confusion.

HENRY M. WHELPLEY.

St. Louis, July 22, 1920.

"GREY" CINCHONA BARK

Grey cinchona bark, once quite fairly common on the London Market, reappeared during the war. It has a low quinine content, and has been practically unknown in commerce during the last twenty years. A recent parcel analyzed by Howard and Chick showed a quinine content of 0.027 per cent, and total alkaloid 6.302 per cent, the bulk being cinchonine, the figure for which was 5.490 per cent. E. M. Holmes, who has examined the bark in question, expresses the opinion that it is the produce of one, or possibly more forms of *Cinchona Peruviana*, How. The large percentage of cinchonine found in the bark is probably due to the elevation at which the trees grow, as this factor and the accompanying difference of heat and moisture are known to influence the character of the alkaloids present. It is thus an interesting supposition that if, under peculiar circumstances of cultivation, a variety of Calisaya bark can be produced with such a large proportion of quinine (sometimes as much as 12 per cent), so in the case of *C. Peruviana* it is equally possible that under favorable conditions, a variety should be found in which the high cinchonine value peculiar to this species is exaggerated almost to the point of extinction of the other alkaloids.—(*Pharm. Journ.*)

Exportation of Narcotic Drugs

Urgent Need for Regulations to Control Shipments Abroad

By **A. W. LINTON**, Associate Professor of Pharmacy, University of Washington

This paper, read before the Section on Education and Legislation at the recent meeting of the A.Ph.A. in Washington, is sent to the Era *by the author, who also encloses a copy of a news article from the Seattle Post Intelligencer which he states quite accurately outlines the present status of the movement to secure legislation to decrease the international traffic in narcotics. He states that the movement is rapidly gaining ground in the Pacific Northwest and is due to the fact that large shipments of American narcotics and of British narcotics in bond have been moving through Pacific Coast ports enroute to Japan; and also, to the fact that large quantities of narcotics, in part of American manufacture, are being smuggled into the Pacific ports from vessels arriving from the Orient. Pacific Coast cities are being flooded with these narcotics, from whence they are distributed broadcast. Those who have studied the whole narcotic situation carefully believe that the Harrison Law can never be made effective so long as great quantities of narcotics are being turned into the world's commerce to find their way into illicit trade. According to Professor Linton, our Washington representatives and senators will support the proposed measure when it comes up in Congress at the next session, but it is necessary to interest the people of the entire country in this urgent need for legislation.*

INFORMATION in regard to the quantities of narcotic drugs exported from the United States is not easily obtainable. The one who studies the published reports of our exports does not find narcotics scheduled as such, since these are included under the general classification of "drugs and chemicals." It is the purpose of this paper to give information concerning the amounts of opium, opium alkaloids, and cocaine being exported by way of the Pacific ports of the United States, to give some facts in regard to the final disposition of these drugs, and to show reasons why the exportation of narcotics should be restricted.

The writer has been able to obtain accurate information as to the quantities of narcotics shipped from the Port of Seattle to the Orient during the five months period extending from July first to December first, 1919. The quantities are:—

Morphine hydrochloride	108,152 ounces
Morphine sulphate	100 ounces
Morphine phosphate	200 ounces
Crude opium	21,128 pounds
Cocaine hydrochloride	13,144 ounces

One ship which cleared during this period, the Fushima Maru sailing on November 5th, carried 11,660 ounces of morphine salts, 5,864 ounces of cocaine hydrochloride, and 2,577 pounds of opium. While complete information is not available as to exports from San Francisco, the writer is reliably informed that during the same period of five months, 64,000 ounces of morphine salts were shipped from that port. Perhaps it will be easier to grasp the huge proportions of the traffic if the amounts are stated in average medicinal doses. The exportations through Seattle alone during the five months period amount to 379 million average medicinal doses of the morphine salts, 23 million average doses of cocaine hydrochloride, and 148 million average doses of opium. There were in the customs office of Seattle waiting shipment at one time during December, 1919, a few cases consigned from New York and Philadelphia to Oriental ports, containing 59 million U. S. P. doses of the morphine salts and 17,500,000 U.S. P. doses of diacetylmorphine hydrochloride. These cases represented an investment of $203,000.

The narcotics which left Seattle from July first to December first, 1919 were carried in Japanese vessels and were all consigned to Japan. When it is understood further that large shipments of narcotics of British manufacture which are sent to New York and are transhipped in bond and forwarded to Japan by way of Pacific ports, it becomes apparent that Japan is purchasing narcotics in immense quantities. The amount shipped by American consignors to Japan by way of Seattle alone during the five months period above mentioned amount to about ten doses for every man, woman and child in Japan. The sale of narcotics is rigidly restricted in Japan, and their illicit use there said to be very limited. We should bear in mind also the number of educated physicians in Japan qualified to use and prescribe narcotic drugs is relatively small in proportion to the population. How then shall we account for Japan's large importations of morphine, opium, cocaine and heroin?

There is abundant evidence that by far the greater part of the narcotic alkaloids purchased and manufactured by Japan find their way to China. That the Japanese are distributing morphine and other narcotics in China on an immense scale is vouched for by many witnesses; and so far as the writer has been able to learn this evidence is not disputed. The witnesses include American missionaries, travelers, and business men returning from China; as well as Chinese business men and students who come to this country. Numerous articles charging the Japanese with this traffic have appeared, both in American magazines and in English language periodicals published in China. Some of these articles have been written by Americans, some by Britishers.

How Morphine Reaches China

There are three principal avenues by which morphine enters China from Japan. It reaches North China (Manchuria and adjoining provinces) by way of Dairen principally through the mails. In the "leased territory" controlled by Japan in northern China the Japanese have their own post-office system, and Chinese officials have no jurisdiction over Japanese post-offices and packages passing through them. This allows abundant opportunity for distribution of illicit goods. Central China is reached through Tsing Tau in Shantung province. By an agreement between China and Japan goods landed in Tsing Tau from Japan in "certificate of government" are free from examination by custom officers. Morphine is smuggled into South China by way of motor boats from Formosa. The drug is retailed through the southern provinces by Japanese and Chinese peddlers, each of whom carries a passport certifying that he is a citizen of Formosa, which renders the Chinese officials powerless to punish him.

Wherever the Japanese predominate in China, morphine is easily obtainable. In most parts of China opium is very expensive at present, but morphine, which is so easily smuggled and so cunningly distributed by the Japanese, is available even to the poorest coolie. It is reliably reported that Chinese who pay visits to Japanese brothels in Korea and in northern China are given several free "shots" of morphine, which is generally sufficient to establish the craving. Cheap hypodermic syringes have been generally introduced; however, the poorest addicts of the drug are usually not provided with syringes, but for a few coppers obtain an injection at a Japanese drug store or other place of business.

Great Britain's Share in the Traffic

Great Britain as well as Japan has a share in drugging China. All honor must be given to Britain for carrying out in full her share of the agreement with China by which she undertook to gradually reduce the amounts of Indian opium exported to China, provided the Chinese would at a corresponding rate decrease the cultivation of the poppy and the smoking of opium. Indeed, the British discontinued the shipment of opium to China three years before the time set for the consummation of the reform, and in 1913 announced to the world that the exportation of opium from India to China had ceased. However, although the British nation was undoubtedly sincere in this reform, Great Britain was not to continue to be blameless of sending narcotics to China. In 1912, by an international agreement, the nations agreed to discontinue the shipment of morphine to China. At that time, Great Britain was shipping to Japan the not inconsiderable amount of 30,000 ounces of morphine to Japan annually. By 1917 this had jumped to 600,000 ounces a year. Everyone who was interested knew that most of this immense quantity was going to China. The British people, again aroused to a sense of their duty to China, demanded that their nation's participation in the crime be brought to an end. A regulation was therefore put into effect which forbade the shipment of opium derivatives to Japan except by government license, and this license was granted only in cases in which the Japanese government had certified that the drugs offered for export from Great Britain to Japan were for medicinal use, and that in Japan only. In spite of this, British morphine is still finding its way indirectly to China. The regulation neglected to forbid the sending by parcels post, and a parcel post package of morphine may easily contain tens of thousands of doses. And as we have already shown, British morphine is going through this country in bond en route to Japan which means to China. This is possible because our laws allow foreign goods arriving at an American port to be placed in bond for trans-shipment without inquiry as to the nature of the goods. Therefore British morphine, which could not be sent to Japan direct except by parcels post, is shipped to New York, placed in bond for trans-shipment, sent across the continent to Seattle and thence to Japan.

Shortcomings of the United States

However, we cannot by calling attention to the sins of Japan and Great Britain atone for our own shortcomings. We have shown that through the looseness of our customs regulations we are making it possible for British manufacturers of narcotics to evade the regulations of their own government. We are being made an intermediary for the shipment of British morphine to Japan and thence to China. But still more serious is the fact that we are ourselves selling enormous and rapidly increasing amounts of opium and narcotic alkaloids to Japan. The consignees of most of the large shipments of morphine and cocaine which pass through Seattle en route to the Orient, are among the largest and best known manufacturers of alkaloids in America, whose names are found on the labels of alkaloids and other chemicals on the shelves of every prescription department in the United States. These manufacturers would probably not care to be mentioned in connection with this traffic. The writer does not wish to seem to censure them too severely. Doubtless they have been able to answer to their own consciences in the matter. Perhaps they are not well informed in regard to the matter in which China, in spite of the splendid fight she made to eradicate opium smoking, is being flooded with drugs which are far more dangerous to her people than opium. This information is available, however, to those who are interested in the subject.

It has been the custom in this country to bitterly censure Great Britain because for so many years she forced Indian opium upon China, and the "Opium War" has been frequently mentioned as a proof of the perfidy of England. However, it ill behooves us to criticise Great Britain as long as we ourselves are helping to drug China, as we are today. True we are not directly responsible for the distribution of the narcotics to the Chinese people as is Japan, but we are certainly participants in the crime.

United States' Responsibility

Why should the United States' feel any responsibility or any qualms of conscience in this matter? Many reasons might be mentioned. China is a sister republic, weak and torn by internal dissension, but still a republic, looking to us for justice and support. We owe her consideration because of the splendid fight she made to stamp out the opium habit, a fight which challenged the admiration of the world, and which apparently culminated in almost complete success. It is true according to reliable reports, that poppy cultivation is being introduced once more in certain parts of China, due largely to the fact that the Peking government has lost control of some provinces, and that revolutionists license poppy cultivation in order to obtain desperately needed revenue to carry on their struggle. But can we blame China greatly for producing opium, when she find great powers, both those which she regards as her enemies, and those which have posed as her friends, conniving to foist upon her habits more deadly than opium smoking?

Our Duty to China

We owe it to China to stop the sale of narcotics in the Orient because America has always stood as the friend of China in the matter of aiding her to shake off the curse of opium. The International Opium Conference held at Shanghai in 1909 was called at the instance of the United States. America is regarded as the leader of the modern movement for the suppression of the opium traffic, and has guaranteed to the world the sincerity of China. Shall we renounce all of these pledges because we now see for ourselves some financial gain from the international traffic in narcotics?

However, even from the standpoint of cold calculating business we show poor judgment in helping to drug China. Before the famous agreement was arrived at between China and Great Britain which went so far towards eliminating the opium habit from China, British Chambers of Commerce in China were petitioning their home government to stop the sale of opium to China, not simply on moral grounds, but because opium was destroying the buying power of China. The population of whole provinces was so enslaved by opium that almost the entire resources were consumed in providing the drugs. These British business men in China realized that if England persisted in selling opium to China she could expect to sell her nothing else, because China could buy nothing else. The demand for western goods has only begun to be aroused in China. The potential buying power of 400 million people we can hardly estimate. China would rather buy our goods than those of any other nation. Today she regards America as her best friend. But just as an American dope fiend is an unprofitable citizen of his country, so a Chinese enslaved by morphine does not promise to be a good customer for our American manufactured goods. Every shipment of narcotics which crosses the Pacific decreases the buying power of China.

Narcotics Returned to Our Shores

There is another reason why to protect our own interests we must more carefully guard our exports of narcotics. A certain part of those we send abroad are certain to find their way back to our shores. Every member of the crew of a vessel from the Orient calling at a Pacific port of the United States is a potential smuggler of narcotics. It is impossible for customs officials to entirely prevent these people from bringing or sending ashore quantities of drugs to find their way into the illicit trade. On board the British steamer Cyclops, which arrived in Seattle in June, 1919, from the Orient, were seized by American customs officers 675 ounces of cocaine, and sixteen ounces of morphine. These alkaloids were of American manufacture and had been shipped to Japan only to recross the Pacific. Had the inspectors not found them on the Cyclops they would certainly have been smuggled ashore and peddled out. Customs officers comment on the fact that smugglers are usually "dope fiends." The question may be raised whether they are drug users because they are smugglers, or smugglers because they are drug users. Probably it works in both ways, but the linking of the two is significant. It is certain that we cannot enforce the Harrison Anti-Narcotic Law at home so long as we are willing to send abroad unlimited quantities of narcotics, knowing full well that a part of the evil we intended for others will return to curse our own people.

Remedial Measures Needed

There are some remedial measures which suggest themselves. Our Treasury Department should be respectfully urged to include in the published statistics of goods exported, statements in regard to narcotic drugs, which are at present lost in the drugs and chemicals classification. It should be required that all applications for permit to export narcotic drugs be submitted to the Treasury Department at Washington, and if the application is for exportation to Japan the latter country should be required to guarantee that the goods will not be reshipped to China. Furthermore, we should press upon our own Government the action urged by the conference of British Chambers of Commerce assembled at Shanghai upon the British Government, namely that "The production of habit forming drugs be limited to the amount required for legitimate medicinal use, and their export limited to such countries as have established laws and regulations which effectively control the traffic in these drugs, and restrict their use to legitimate purposes only."

Note—The writer wishes to acknowledge his indebtedness to Dr. Wm. K. McKibben, Secretary of the China Club of Seattle, for much of the material included in this paper.

The China Club of Seattle is an organization including in its membership many of the prominent business and professional men of Seattle and having for its object the fostering of cordial relations between China and the United States and the encouragement of commercial intercourse between the two countries.

Dr. McKibben, himself a resident of China for many years and deeply interested in everything concerned with the welfare of that country, has collected much material concerning the shipment of narcotics to China, and this was freely placed at the disposal of the author of this paper.

Mention should be made also of an article by Professor John Dewey, of Peking, which appeared in the New Republic, of December 24th, 1919.

NATIONAL FORMULARY REVISION

Pharmacists Asked for Opinions and Suggestions on List of Articles Proposed for Deletion and Addition

Wilbur L. Scoville, chairman of the National Formulary Committee, Detroit, Mich., has sent to the various pharmaceutical journals for publication, the following list of proposed deletions from the National Formulary and additions to the next N.F. which the N.F. Committee has tentatively adopted for consideration. Chairman Scoville wishes it understood that the Committee has not decided fully on these lists and would like to have an opinion of pharmacists and of all interested upon these articles. To this end, readers are requested to study this list carefully and send to the chairman of the National Formulary Committee such approval or disapproval of the proposed action as their judgment may dictate.

In the matter of extending the list of additions, the Committee is trying to find from the dental and veterinary associations what articles, if any, of dental or veterinary use, it may be desired to add. Further suggestions for additions are welcomed and will be considered by the Committee. Send your suggestions to Chairman Wilbur F. Scoville, P. O. Box 488, Detroit, Mich. The following is the list referred to above:

Proposed Deletions from the N.F.

Acetum Opii
Collodium Tiglii
Collodium Iodi
Collodium Iodoformi
Cordiale Rubi Fructus
Decoctum Sarsaparillae Compositum
Elixir Aurantii Amari
Elixir Bismuthi
Elixir Calcii Bromidi
Elixir Calcii Hypophosphitis
Elixir Calcii Lactophosphatis
Elixir Cinchonae Alkaloidorum, Ferri et Pepsini
Elixir Cinchonae Alkaloidorum, et Hypophosphitum
Elixir Cinchonae Alkaloidorum, Ferri et Bismuthi
Elixir Cinchonae Alkaloidorum, Ferri, Bismuthi et Strychninae
Elixir Cinchonae Alkaloidorum, Ferri et Calcii Lactophosphatis
Elixir Corydalis Compositum
Elixir Ferri Hypophosphitis
Elixir Ferri Lactatis
Elixir Formatum
Elixir Formatum Compositum
Elixir Humuli
Elixir Hypophosphitum
Elixir Hypophosphitum et Ferri
Elixir Lithii Citratis
Elixir Pepsini et Ferri
Elixir Rubi Compositum
Elixir Salicylatis
Elixir Strychninae Valeratis
Elixir Viburni Prunifolii
Elixir Zinci Valeratis
Emulsum Olei Morrhuae cum Calcii Lactophosphate
Emulsum Olei Morrhuae cum Calcii Phosphate
Emulsum Olei Morrhuae cum Pruno Virginiana
Emulsum Olei Morrhuae cum Vitello
Emulsum Olei Ricini
Emulsum Petrolati
Fluidextractum Cinchonae Aquosum
Fluidextractum Coffeae
Fluidextractum Conii
Fluidextractum Corydalis
Fluidextractum Helianthemi
Fluidextractum Paracoto
Fluidextractum Petroselini Bad
Fluidextractum Verbenae
Gelatinum Chondri
Glyceritum Vitelli
Glyceritum Guaiaci
Glyceritum Tragacanthae
Glycerogelatinum Acidi Salicylici
Glycerogelatinum Iodoformi
Glycerogelatinum Zinci Durum
Glycerogelatinum Zinci Molle
Gossypium Stypticum
Infusum Brayerae
Iodoformum Aromatisatum
Linimentum Ammonii Iodidi
Linimentum Tiglii
Linimentum Tiglii Compositum
Liquor Alumini Acetico-Tartratis
Liquor Bismuthi
Liquor Bromi
Liquor Ferri Citratis
Liquor Ferri Hypophosphitis
Liquor Ferri Nitratis
Liquor Ferri Oxysulphatis
Liquor Ferri Protochloridi
Liquor Magnesii Sulphatis Effervescens
Liquor Pancreatini
Liquor Pepsini
Liquor Pepsini Aromaticus
Liquor Phosphori
Liquor Sodii Arsenatis, Pearson
Liquor Sodii Citro-Tartratis Effervescens
Liquor Strychninae Acetatis
Liquor Zinci et Alumini Compositus
Liquor Zinci et Ferri Compositus
Magma Ferri Hydroxidi
Massa Copaibae
Mistura Carminativa
Mistura Opii et Sassafras
Mistura Guaiaci
Mistura Olei Picis
Mistura Pectoralis, Stokes
Mulla Acidi Salicylici
Mulla Creosoti Salicylata
Mulla Hydrargyri Chloridi Corrosivi
Mulla Zinci
Oleatum Aconitinae
Oleatum Atropinae
Oleatum Cocainae
Oleatum Quininae
Oleatum Veratrinae
Petroxylins—Too many. Which can be spared?
Petroxolinum Betanaphtholis
Petroxolinum Cadinum
Petroxolinum Chloroformi Camphoratum
Petroxolinum Creosoti
Petroxolinum Eucalyptolis
Petroxolinum Guaiacolis
Petroxolinum Hydrargyri
Petroxolinum Iodi
Petroxolinum Iodi Dilutum
Petroxolinum Iodoformi
Petroxolinum Liquidum
Petroxolinum Mentholis
Petroxolinum Methylis Salicylatis
Petroxolinum Phenolis
Petroxolinum Phenolis Camphoratum
Petroxolinum Picis
Petroxolinum Spissum
Petroxolinum Sulphuratum
Petroxolinum Sulphuratum Compositum
Petroxolinum Terebinthinae Laricis
Phenol Iodatum
Pilulae Antimonii Compositae
Pilulae Antidyspepticae
Pilulae Colocynthidis Compositae
Pilulae Colocynthidis et Hyoscyami
Pilulae Colocynthidis et Podophylli
Pilulae Ferri, Quininae, Strychninae et Arseni Fortiores
Pilulae Glycerylis Nitratis
Potassa cum Calce
Pulvis Gambir Compositus
Pulvis Kino et Opii Compositus
Sal. Lithii Citratis Effervescens
Sal. Potassii Bromidi Effervescens Compositum
Sal. Vichyanum Factitium Effervescens cum Lithio
Soda cum Calce
Sodii Boro-Benzoas
Succus Citri et Pepsinum
Syrupus Althææ
Syrupus Calcii Hydrochlorophosphatis
Syrupus Calcii Hypophosphitis
Syrupus Calcii Iodidi
Syrupus Calcii Lactophosphatis et Ferri
Syrupus Ferri et Mangani Iodidi
Syrupus Ferri Hypophosphitis
Syrupus Ferri Lactophosphatis
Syrupus Ferri Protochloridi
Syrupus Morphinae et Acaciae
Syrupus Sodii Hypophosphitis
Syrupus Stillingiae Compositus
Syrupus Cimicifugae Compositus
Syrupus Codeinae
Tinctura Amara
Tinctura Aromatica
Tinctura Caramellis
Tinctura Ergotæ Ammoniata
Tinctura Iodi Decolorata
Tinctura Kino et Opii Composita
Tinctura Paracoto
Tinctura Pectoralis
Tinctura Rhei et Gentianae
Tinctura Zedoariae Amara
Trochisci Carbonis Ligni
Trochisci Gambir
Trochisci Menthae Piperitae
Unguentum Picis Compositum
Unguentum Plumbi Iodidi
Unguentum Veratrinæ
Unguentum Zinci Stearatis
Vinum Aurantii Compositum
Vinum Carnis
Vinum Carnis et Ferri
Vinum Ferri
Vinum Fraxini
Vinum Pepsini
Vinum Picis
Vinum Pruni Virginianae
Vinum Pruni Virginianae Ferratum
Vinum Rhei Compositum

Proposed for Additions

Compound Digestive Elixir—modified
Compound Mustard Ointment
Compound Capsicum Ointment
Compound Syrup of Thyme
Suspension (or Emulsion) of Benzyl Benzoate
Ampoules

A Book by Ole Hanson

A BOOK full of the fire of patriotism and common sense is Ole Hanson's "Americanism Versus Bolshevism." It should be read by every American. In acquainting our readers with the contents of the volume, we need do no more than quote from one of the chapters:

> The real American believes in putting more into the Government than he takes out of it;
>
> The bolshevist wants to take more out than he puts in.
>
> Americanism stands for liberty;
> Bolshevism is premeditated slavery.
> Americanism is a synonym of self-government;
> Bolshevism believes in a dictatorship of tyrants.
> Americanism means equality;
> Bolshevism stands for class division and class rule.
> Americanism is democracy;
> Bolshevism is autocracy.
> Americanism stands for orderly, continuous, never-ending progress;
> Bolshevism stands for retrograding to barbaric government.
> Americanism stands for law;
> Bolshevism disdains law.
> Americanism means love of your fellow man;
> Bolshevism teaches and practices hatred and envy.
> Americanism stands for hope;
> Bolshevism stands for despair.
> One is the philosophy of optimism;
> The other, the practice and belief of pessimism.
> Americanism is founded on family love and family life;
> Bolshevism is against family life.
> Americanism stands for one wife and one country;
> Bolshevism stands for free love and no country.
>
> Americanism means increased production and increased prosperity for all;
> Bolshevism stands for destruction, restriction of output and compulsory poverty.
> An American believes in a strong national government; he is patriotic and loyal;
> Bolshevists believe in destruction of nationalism, loyalty and patriotism and the adoption of a sentimental, sickly, unworkable, skim-milk internationalism.
> Loving no country, they excuse themselves by saying they love all countries alike.
> Polygamous men have ever used the same excuse.
> Americanism stands for the protection of private rights and property;
> Bolshevism stands for the destruction of all private rights and the confiscation of all property.
> Americanism believes in strength;
> Bolshevism teaches premeditated weakness and inefficiency.
> Americanism stands for preparedness and universal training;
> Bolshevism would disarm and Chinafy our great people.
> Americanism has taught and Americans have practiced morality;
> Bolshevism teaches and its votaries practice immorality, indecency, cruelty, rape, murder, theft, arson.
> Americanism stands for God and good;
> Bolshevism is against both God and good.
> Americanism thrives on truth;
> Truth destroys bolshevism.
> Americanism conquers by reason;
> Bolshevism cannot stand the light of reason.
> Americanism has proven true by experience;
> All experience has proven bolshevism false.
> Americanism is success;
> Bolshevism is failure.
> Under our Government we have prospered, grown, become and remained free;
> Under bolshevism, wherever tried, people have starved, suffered, become and remained slaves.
> Every man and most women can vote in our country and every individual has one vote and one only;
> Under bolshevism, many people cannot vote at all while others have but one vote to another man's 800.
> Americanism rewards individual effort and toil;
> Bolshevism rewards the loafer and robs the producer.
> Americanism is great enough to be just and just enough to be great;
> Bolshevism is always unjust and in its injustice only is great.
> Americanism grants full and equal justice to all;
> Bolshevism gives special privileges to some but justice to none.
> Our countryside rings with happy song and laughter;
> Russia, the bolshevist's paradise, knows neither happiness nor song.
> Americanism means education, universal and free;
> Bolshevism tends to static and degrading ignorance.
> American institutions are founded on the solid rock of human rights.
> Bolshevism softens its people into a pulp—a pulp without wrinkles, but also without a backbone.
> The men who created and led America were believers in liberty and freedom and were willing to die for America.
> The men who lead the bolsheviki are trying to revitalize the shifting shadows of an outgrown past and by coating the disastrous record with an enamel of lies are trying to befool the people of the world.
> Americanism is a substantial, living, breathing, functioning, successful ideal;
> Bolshevism is as full of holes as a sponge and has no ideals.
>
> Bolshevism has made revolutionists of loyal men and women;
>
> It has destroyed love of country in the hearts and minds of thousands;
>
> It has made many efficient, contented and well-paid workers inefficient, complaining fault-finders;
>
> It has gained converts and supporters in every state of the Union;
>
> It has caused industrious men to become loafers on the job; it has fanned the flames of hatred and envy;
>
> It has invaded the loyal organizations and assemblages of labor and is fast destroying the morale of many of our workers.

The book is published by Doubleday, Page & Co.

HOW SYNTHETIC CAMPHOR IS MADE

Professor Mailhe, a French chemist, writes that synthetic camphor is prepared quite simply in three steps from the pinene of the essence of turpentine. Gaseous hydrochloric acid converts the pinene into a solid hydrochlorate, and this is changed to camphene by ammonia, pyridine, or any one of many methods. The camphene is hydrated into borneol by heating in a water-bath with glacial acetic acid and about two per cent of sulphuric acid. The borneol is transformed into camphor by oxidation by air, oxygen, ozone, or other agent; or by dehydrogenation by passing the borneol vapor over finely divided copper heated to 300° to 330° C., thus splitting the compound up into hydrogen and camphor. The success of this artificial camphor may depend on a lowering of the present high cost of turpentine and hydrochloric acid.

SALVADOR'S NEW PHARMACY LAW

Among the provisions contained in a new pharmacy law promulgated in the republic of Salvador, Central America, the following reprinted from "Commerce Reports," may be of especial interest to American exporters of pharmaceutical preparations:

Article 1. The faculty of chemistry and pharmacy is composed of all persons to whom the National University has granted titles in that faculty, those who have obtained a professional title extended by the former faculty of pharmacy and natural sciences and the present faculty of chemistry and pharmacy, and those who have been legally incorporated in these faculties.

Art. 2. The faculty is to have an executive board called "Executive Board of the Faculty of Chemistry and Pharmacy" (Junta de Gobierno de la Facultad de Quimica y Farmacia), composed of a president, two voting members, a secretary and a treasurer invested with full rights, as well as two members and a secretary as substitutes. These are appointed by the executive power.

* * * * * * * *

Art. 5. The executive board is charged with the duties and attributes of control specified by this law over druggists' shops, pharmacies, chemical or biological laboratories, herbalists' shops, medicine shops, and other establishments where medicines, chemical and pharmaceutical products, or mineral waters are prepared and sold, as well as over the exercise of certain professions.

* * * * * * * *

Art. 10. The following duties are attributed to the executive board:

* * * * * * * *

(j) To propose to the Government, whenever it seems fitting, such reforms as experience has indicated concerning the import duties on foreign medicaments, in order to facilitate the acquisition of those which are necessary and which are not produced in the country, and to encourage national industries.

* * * * * * * *

(l) To form a list of the minimum quantities of drugs or medicines which can be sold.

(m) To order the analysis, in its laboratories, of the samples of the pharmaceutical specialties which are presented to it when applying for authorization for putting them on sale in the country, with the object of proving whether they are really prepared in conformity with the formula submitted and whether their sale is desirable or not.

After the analysis, if in the judgment of the board the sale of a specialty should be authorized, the interested party will be given the corresponding license, the board reserving the right to analyze, when it sees fit, samples of the same product actually on the market.

* * * * * * * *

Art. 32. The preparation, conservation, and distribution of medicaments must conform to the regulations laid down by the French Pharmacopoeia as long as no national one is promulgated.

Art. 33. All medicaments shall be labeled with their proper names and regulated in conformity with the principles of science, in order to avoid dangerous errors.

Art. 34. Poisonous substances shall be kept under lock and explosives in conformity with the police laws.

* * * * * * * *

Art. 56. The sale of patented medicines, national or foreign, without the authorization of the executive board is prohibited.

Art. 57. Manufacturers who desire to obtain authorization from the executive board to sell their pharmaceutical specialties in the country will have to apply for it.

The following must accompany the application:

1. Six samples of the preparation.
2. The complete formula of the same, if it be foreign.
3. Evidence of having paid the fees for the corresponding analysis.

Art. 58. Every specialty, national or foreign, which is authorized by the board to be placed on sale shall be entered in a book kept for that purpose by the secretary's office, and the manufacturers must put the following legend on the labels, notices, or wrappers, etc., of each bottle or box: "Authorized by the executive board of the Faculty of Pharmacy of Salvador, date ———, No.———," without which its sale will be prohibited.

* * * * * * * *

Art. 70. A fee of $5 or 10 colons shall be paid for the analysis of each pharmaceutical specialty at the time an application is made to the board for a sales permit. This fee shall be paid in the manner prescribed for the payment of the registration fees for drug stores and similar establishments.

Art. 71. Foreign pharmaceutical specialties whose sale is authorized shall be subject to the payment of an annual fee of 5 colons; no annual fee is to be collected on such specialties of domestic origin.

Ex-Art. 72. Failure to pay the annual fee by manufacturers of pharmaceutical specialties will involve the loss of their rights and will necessitate an application for a new license.

DEFECTIVE CLINICAL THERMOMETERS

Doubts respecting the reliability of clinical thermometers in use and on sale in New York City recently caused the Commissioner of Health to test instruments obtained from various sources at various times, with the result that a large per cent were shown to be defective and that doctors and nurses were relying on such thermometers. Of 156 clinical thermometers obtained from doctors and nurses, 84, or 54 per cent, were found defective and rejected, the rejections being due to such cause as "air in tube, retreating mercury column, dampness in tubes, split bore, 'hard shakers,' and requiring over 0.2 degrees correction of reading." Of the number examined in the test, 72 thermometers, or 46 per cent, were found acceptable.

As a result of this survey and these tests, an appropriate amendment to the Sanitary Code and regulations to govern the selling, holding or keeping for sale of clinical thermometers in New York City is under consideration by the Board of Health. The manufacturers have agreed that they all could and would make clinical thermometers which will show correct temperatures within certain established ranges, if proper standards are provided and enforced. At a conference of Board of Health officials and thermometer manufacturers held recently it was agreed that certain modifications of the regulations proposed would best safeguard the interests of the community, without imposing too great restrictions upon the manufacturers.

The Argentine Health Department has decided to restrict the sale of aspirin except as prescribed by a physician. For another six months druggists will be permitted to continue the unrestricted sale of those brands of aspirin or of medicines containing aspirin that are already on the local market, but no new ones may be introduced. After the six months has expired the sale of the old brands will be prohibited also, except on the requisition of an authorized medical practitioner.

THE QUESTION BOX

The "How to Do It" Department

Conducted by Pharmaceutical Experts

For the benefit of ERA Subscribers

What is Certified Milk?

(Dispenser)—By certified milk is meant milk: (1) that is obtained from cows that have been declared disease-free by an authorized inspector; (2) that is drawn and kept under conditions laid down by the Board of Health; (3) that does not contain a larger number of bacteria than the law of the State permits; and (4) that contains the percentage of fat required by the State law. The details of the law requirements vary in the different States. New York State requires that there be less than 30,000 germs per cubic centimeter of milk and that these be non-pathogenic, that the milk contain an average of 4 per cent fat, that it be kept and sold in sealed, sterilized bottles and sold on the same day that it reaches the city. To prevent the multiplication of germs in milk it is most important that everything coming in contact with it be absolutely clean and that it be kept at a temperature of or below 40° F. Certified milk is, of course, more expensive than non-certified, inasmuch as the dairy is necessarily called upon to bear the expense of inspection According to Dr. H. W. Wiley, however, the superior quality of such milk and its certain freedom from infection more than offset the increased price, and make certified milk the ideal food of a milk character, not only in the family, but especially in the hospitals, orphan asylums and other public institutions

Spirit Gum; Adhesive for Actors' Make-up

(C. R. B.)—"Spirit gum" is the name applied to an alcoholic solution of gum resins employed by actors for fastening false beards to the face. Variant formulas have been published, the following being taken from back files of the Era:

(1)

Common resin	1	ounce
Castor oil	½	ounce
Alcohol	4	ounces

Dissolve and perfume.

(2)

Mastic	1	ounce
Ether	2	ounces
Alcohol	4	ounces

Prepare as in the preceding formula.

(3)

A preparation for a similar purpose under the title "Moustache Fixing Varnish" appeared in the first edition of the Era Formulary more than twenty-five years ago, the formula being as follows:

Mastic	2	parts
Sandarac	4	parts
Colophony	12	parts
Alcohol	16	parts
Ether	2	parts

All by weight. Dissolve and strain.

A good quality of collodion has also been recommended for a similar purpose. Any of the above formulas can be perfumed as desired. After removal of the false beard, the face may be cleaned by wiping with a rag moistened with alcohol.

Rapid Preparation of Camphor Liniment

(T. F. N.)—The official directions to add camphor in coarse powder to the cottonseed oil, previously heated, materially facilitates solution, as camphor in lumps dissolves but slowly in oil at ordinary temperatures. Of course, care must be taken to stopper the flask or bottle securely to prevent loss of camphor by evaporation. By employing the camphor in very fine powder solution can be effected without the aid of heat, but the operation requires more time, a condition which is avoided by heating the oil on a water bath previous to the introduction of the camphor.

For the extemporaneous preparation of camphor liniment, Robert W. Terry (*J. Amer. Pharm. Asso.* 1915) suggests the use of chloroform or ether to reduce the camphor to an extremely fine powder in order to facilitate rapid solution. His method is as follows: Powder the camphor very fine, by the aid of chloroform or ether. Allow this to stand a minute with an occasional stir to hasten the spontaneous evaporation of the solvent; then add a small quantity of the oil and triturate until a thoroughly homogeneous mass results; add another small portion of oil and mix again; transfer this to the bottle and rinse the mortar with the remainder of the oil; shake and after standing three or four minutes the camphor will all be in solution—provided the camphor was powdered properly. Alcohol should not be used in powdering the camphor, as this evaporates slowly compared to the ether or chloroform, and, being almost insoluble in the oil, it produces an undesirable cloudiness in the finished product. Always weigh the oil unless its exact specific gravity is known; this will insure the finished product being of the required strength.

In this connection, Otto Raubenheimer says that one of the quickest and simplest processes for producing a camphorated oil is circulatory displacement, by which the camphor is dissolved in a few hours, and which is doubtless used extensively by pharmacists all over the United States; the method requires but little attention and no heat. He also calls attention to Prof. Nixon's percolation process, which is conducted as follows: Reduce the camphor to a coarse powder, and put it in a narrow glass percolator in which a layer of absorbent cotton has been placed. Pour on the oil till the camphor is covered and when the percolate begins to drop close the lower orifice and allow to stand for twelve hours. Then percolate slowly until the required quantity is obtained. It is claimed that in this cold process there can be no loss of camphor by evaporation, as the camphor is dissolved before the required quantity of oil has passed. However, for making stock solutions of camphor liniment in quantity, it is doubtful if the pharmacopoeial method can be improved upon.

Saponaceous Tooth Paste

(J. G. S.)—According to Deite, the following recipe gives a very good tooth paste;

(1)

Havana honey	500 grams
Soap powder	500 grams
Magnesia	280 grams
Carmine	1 gram
Ammonia water	1 gram
Water	15 grams
Oil of peppermint	10 grams

The honey, soap powder, and magnesia are kneaded up into a plastic mass and the carmine, which has been well ground up with the ammonia and water, is added; the oil of peppermint is added last. Only sufficient ammonia must be used to dissolve the carmine; otherwise the latter would acquire a bluish tinge

(2)

Boric acid	0.6	gram
Prepared chalk	5.5	grams
Powdered soap	12.0	grams
Thymol	0.1	gram
Saccharin	0.15	gram
Oil of eucalyptus	0.5	Cc.
Oil of spearmint	0.5	Cc.
Alcohol	0.5	Cc.
Glycerin	7.0	Cc.
Agar agar solution	17.0	Cc.

Dissolve the boric acid, finely powdered, in the glycerin with the aid of gentle heat Then dissolve the volatile oils, thymol and saccharin in the alcohol and mix this solution thoroughly with the chalk; with this solution incorporate the glycerin solution and soap. Dissolve 0.2 gram agar agar in 30 Cc. boiling water and evaporate down to 18 Cc. Strain the hot agar agar solution directly into the mixture previously made and beat thoroughly until cool Let stand for two hours and then pack in collapsible tubes immediately.

Hess's Antiseptic Tooth Paste

Prepared chalk	140 grams
Potassium chlorate	30 grams
Powdered soap	10 grams
Tincture of myrrh	10 grams
Aromatic tincture	10 grams
Peppermint oil	10 drops
Carmine	1 gram
Potassium carbonate	1 gram
Glycerin, Water, of each	q. s.

Mix the first six ingredients and make into a soft mass with equal parts of glycerin and water. Dissolve the potassium carbonate in 10 Cc. of water, add the carmine and color the mass with the solution.

Tincture of Larkspur

(R. J. B.)—The National Formulary, 4th revision, page 224, gives the following formula under the title "Tinctura Delphinii" (tincture of larkspur):

Larkspur seed, in No. 30 powder	100 grams
Alcohol, a sufficient quantity to make	1000 mils

Saturate the powder with alcohol, and after macerating for six hours, percolate it, in the usual manner, with alcohol until the product measures 1,000 mils. An appended note states that tincture of larkspur is rarely used internally, but is commonly applied externally to destroy parasites.

Another formula for a tincture of larkspur seed which is similarly employed, is the following from the Edinburgh Infirmary Pharmacopoeia:

Larkspur seed	10 ounces
Potassium carbonate	1 ounce

Boil together five minutes; when cold add—

Rectified spirit	50 ounces
Water, enough to make	100 ounces

Poisoning by Wood Alcohol

(Inquirer)—All medical authorities uniformly agree that wood alcohol is a pronounced poison, and as outlined by them, the symptoms of acute poisoning from methyl (wood) alcohol are similar to those of poisoning from ethyl alcohol, only they come on more slowly and are more prolonged. For instance: coma caused by wood alcohol, commonly lasts two to four days while that resulting from excess of ethyl alcohol rarely lasts over six hours. Methyl alcohol produces marked fall of body temperature, and marked changes in the alimentary tract with intestinal hemorrhages, and vomiting of blood is frequent. Convulsions may occur and last for a day or two, ending in loss of sensation and most reflex movements. Convulsive movements of the eye are often very noticeable. Very few of the cases of acute intoxication recover and in those that do, blindness is a common result owing to degenerative changes in the retina.

In chronic poisoning, it is stated, while a single dose of methyl alcohol is no more toxic to one of the lower animals than an equal quantity of ethyl alcohol, small doses of the former, given every other day, are fatal in all cases within a few weeks. This, notwithstanding the fact that doses of ethyl or isobutyl, or amyl (fusel oil) alcohol, in doses sufficient to cause intoxication, can be given to such animals for months without harmful results. In animals dead from chronic methyl alcohol poisoning, extensive fatty change of the liver has been uniformly found. The idea has been prevalent in some quarters that methyl alcohol owes its chief poisonous effect to the action of the impurities contained. According to Hunt, who has made thorough study of the toxicity of wood alcohol, the toxicity of the preparation may be considerably increased by such impurities, but methyl alcohol is still the chief toxic agent.

The treatment of acute methyl alcohol poisoning is thus given by Gettler and St. George:

"The treatment, to be at all efficacious, must be promptly instituted, and consists essentially of ridding the body of the poison, and supportive measures. For a considerable period of time, the alcohol is excreted and re-excreted, unchanged into the stomach and intestine, and it is therefore important that early and frequent gastric and rectal lavage be carried out. Intravenous saline and sodium bicarbonate infusions and phlebotomy and transfusions, if the latter can be had quickly, should be administered. In addition, warmth and strong stimulation with strychnine, digitalis, caffeine, camphor, epinephrin and oxygen must be given. It is said that ethyl alcohol is indicated to replace methyl, and that it acts as a powerful stimulant; but we doubt this."

In this city it is a violation of the Sanitary Code to sell, offer for sale, give away, deal in or supply any wood or methyl alcohol, under whatever name or trademark it may be known, unless the container in which the same is sold or supplied bears a notice containing the customary skull and crossbones and the words "Poison. Wood Naphtha or Wood Alcohol. Warning.—It is unlawful to use this fluid in any article of food, beverage, or medicinal or toilet preparation, intended for internal or external human use."

The Progress of Pharmacy

Identification Test for Sparteine—

E. H. Grant proposes a new test for sparteine which consists in evaporating a chloroform solution of the alkaloid extracted and purified by the usual methods to dryness in a small beaker. To the alkaloidal residue a small amount of bromine is added. A yellow precipitate, or, in the presence of large amounts of sparteine, an orange-colored oil, forms but dissolves on warming. The solution is evaporated just to dryness on the water bath. While the beaker is still hot, it is inverted over concentrated ammonia water, a beautiful pink color being developed if sparteine is present. A point to be noted is that the beaker must be removed from the bath just as soon as the residue from the bromination is dry, for if the residue is overheated too long, the test fails. If the beaker be removed before the residue is quite dry, the pink color will not appear; but the beaker may be replaced on the water bath after it has been held over the ammonia and the rest of the water evaporated, when the beaker may again be inverted over the ammonia. The beaker must be hot when inverted over the ammonia.—(*J. A. Ph. A.*)

Oil of Melaleuca Leucadendron—

Melaleuca leucadendron, which produces oil of cajuput, has yielded on distillation of other varieties, two oils very different from that of oil of cajuput, so far as concerns their constants and especially their odor. One of these oils is derived from the broad-leaf variety, and the other from the narrow-leaf variety. Their principal characters are:

	Broad-leaf variety	Narrow-leaf variety
Density at 15°	1.0019	0.9056
Optical rotation	–3° 44	–0° 22
Refractive index at 20°.....	1.52500	1.47936
Acid value	0.4	0.7
Ester value	7.6	11.8
Ester value after acetylization	15.2	84.8
Soluble in 80% alcohol.....	0.6 vol.	1.5 vol.

These two oils differ from oil of cajuput in regard to their composition. An essential oil obtained from Annam previously investigated, shows constants approximate to the above, but the oil examined contained 41 per cent of cineol.—(Roure-Bertrand's *Bulletin*, 1920)

Oil of Datura Stramonium—

A. Sivolsbof has distilled stems of *Datura stramonium* cut level with the roots. He observed first of all the liberation of carbonic acid and a gas with a narcotic odor. This gas, unabsorbed by potash, produces toxic effects. Distillation was carried on for a long time, so that the water passing over at the end should have no odor. After repeated distillations, the author obtained a mixture distilling between 60° and 81° C. This mixture, which has a strong odor of Datura, consists of compounds of the fatty series. The alcohols are principally methyl and ethyl alcohol. The aldehydes are acetic aldehyde and probably formic, propionic and isobutyl aldehydes, as well as another one of higher boiling point. The presence of acetone, another undetermined ketone, and formic and acetic esters were also detected.—(*Journ. Soc. phys.-chem. russe*, through Roure-Bertrand's *Bulletin*, 1920)

Oil of Galbanum—

Semmler and Jones report the following constants for an oil of galbanum from which they extracted cadinene; Density at 150° C., 0.9353; boiling point under 15 mm., 55-195°; optical rotation, –8°; refractive index, 1.49395. By fractional distillation of the oil they obtained nine fractions. The first, comprising 29.5 per cent of the oil, contains a terpene. Fraction 3 contains a ketone, $C_{10}H_{16}O$. It is mixed, as well as fraction 4, with a hydrocarbon, which is cadinene. Fractions 6 and 7 contain a sesquiterpene alcohol, which is cadinol.—(Roure-Bertrand's *Bulletin*, 1920)

Therapeutic Value of Natural Oils and Constituents—

C. A. Hill, president of the British Pharmaceutical Conference in an address before that organization recently, alluded to the relative therapeutic value of natural oils and constituents by stating that some drugs are used only for their aromatic principles or essential oils. In the cases of aniseed, caraway, cinnamon, cassia and cloves the drug continues to enjoy ample vogue, but as regards eucalyptus and *Mentha piperita* the essential oil entirely replaces the parent drug. In some cases progress has gone a step further, and the most important constituent of the essential oil is used in place of the oil itself. Thus, carvone replaces oil of caraway in liqueurs, while menthol enjoys a wide vogue, though its purpose differs from that of the oil of peppermint from which it is obtained. Very generally, however, the natural essential oils continue to enjoy a reputation which is not attained by any constituent nor any substitute, and deservedly so.

Analysis of Mercurial Ointment—

Joseph L. Mayer proposes the following method for the U.S.P. assay of mercurial ointment; Accurately weigh about 0.500 gram of the ointment in a tared 100 Cc. beaker, warm gently; add about 50 Cc. of gasoline, stir with a glass rod to dissolve the fat, allow the mercury to subside, then carefully decant the liquid through a small filter paper and reject the filtrate. Place the funnel and filter paper over the beaker containing the mercury, add 10 Cc. nitric acid through the paper, employing a pipette; wash with a small amount of water, then place the beaker containing the mercury and nitric acid on a hot plate and heat gently until red fumes cease to be evolved; wash the contents into a large Erlenmeyer flask, dilute to about 150 Cc. with water, add 2 Cc. ferric ammonium sulphate solution and titrate with tenth-normal potassium sulphocyanate V.S. until the appearance of a permanent, yellowish-red color. Each Cc. of tenth-normal KCNS V.S. consumed corresponds to 0.01003 Gm. mercury. The method is claimed to be accurate, simple and rapid.—(*J. A. Ph. A.*)

Identification Test for Guaiac—

E. H. Grant finds that the usual test for guaiac depending on the production of a blue coloration by means of various oxidizing agents often fails with old preparations of this drug. A delicate test giving positive results even with old preparations which give no response to the blue oxidation test, consists in extracting a suitable amount of the sample with chloroform, then drawing off and separating the chloroform solution into two portions, one of which is evaporated to dryness and the residue treated with concentrated sulphuric acid. An intense red coloration indicates guaiac, the same coloration being given also by some saponins and resins. The other portion of chloroform is shaken with about an equal volume of bromine water, when, sometimes, a sudden flash of purple or blue shoots through the chloroform just as the bromine dissolves in it. The chloroform layer is then separated and evaporated to dryness. On treating the residue with concentrated sulphuric acid, a brilliant green indicates guaiac.—(*J. A. Ph. A.*)

Popularity of Galenical Preparations of Opium—

C. A. Hill in an address before the British Pharmaceutical Conference, outlined the reasons why galenical preparations of opium retain their popularity and have not gone out of use on account of the prescribing of morphine, codeine and their derivatives as follows; Opium contains more than twenty different alkaloids, possessing varied physiological properties. Morphine has a well-known depressant action on the central nervous system, and codeine has a similar though milder action. Papaverine is a narcotic less powerful than morphine. Narcotine, which exerts little or no narcotic effect, produces a condition of excitement rather than depression. Laudanine and thebaine exert a strychnine-like action, while cryptopine and protopine act on the central nervous system somewhat like morphine. It has been shown that upon adding narcotine to morphine, the mixture has a greater narcotic effect than when morphine alone is employed, although narcotine alone possesses little or no narcotic action. Papaverine alone does not affect the action of morphine, yet it considerably increases the activity of mixtures of morphine and narcotine. In addition to the alkaloids there are present in opium organic acids, such as meconic and lactic acid, sugars, gums, etc.; the presence of these substances in morphine preparations serves to delay and sustain their action. Since sustained action of this type is what is usually required in a narcotic drug, and, on the other hand, rapid absorption of the drug may prove dangerous, the reasons why galenical preparations of opium retain their popularity are clear—(*Pharm. Journ.*)

Systematic Detection of Acetates—

Curtman, Broggi and Fourman recommend the following method for detecting acetates in mixtures; The solution is acidified with nitric acid, treated with silver nitrate, and filtered. The filtrate is made just alkaline with caustic soda, a solution of barium and calcium chlorides added, and the precipitate filtered off. The clear liquor is concentrated to 5 Cc. after addition of hydrogen peroxide. After filtering off the deposited crystals the solution is made just neutral to phenolphthalein with dilute hydrochloric acid, 1 Cc. of ferric chloride solution is added, and the color compared with that of controls prepared with 1 Cc. of ferric chloride solution in 5 Cc. of water and known quantities of sodium acetate. A reddish-yellow color is perceptible if as little as 2 mg. of acetic acid is present. Acetates may also be recognized by the odor of the vapor evolved on boiling 1 Cc. of the test solution with 2 Cc. of sulphuric acid (1:1). The test is sensitive to 2 mg., but nitrates seriously interfere.—(*Chem. News* through *J. Soc. Chem. Ind.*)

Action of Chromic Acid on the Alcohols—

The action of chromic acid on the alcohols has been studied by H. Wienhaus (*D. chem. G.*). When an aqueous solution of chromic acid and a solution of an alcohol in petroleum ether are placed in contact, a chromic ester CrO_4R_2 is formed. These yellow or red esters have a variable stability. They keep well in the dark, but on the other hand decompose rapidly in the light. The author proposes the formation of these esters for the examination of tertiary alcohols; the chromates of these alcohols being more stable in solution in petroleum ether than the chromates of the primary and secondary alcohols. The red coloration, which they give to the solution generally persists for a long time. Isolation of several of these chromates showed the following decomposition; p-Menthanol chromate, $CrO_4(C_{10}H_{19})_2$, a deep red brown oil; Methyl borneol chromate, $CrO_4(C_{11}H_{19})_2$, needles of a light orange color, decomposing about 105°; Cedrol chromate, $CrO_4(C_{15}H_{25})_2$, yellow red prisms, melting at 115°. Cyclohexanol, borneol and menthol, also form unstable chromates, that have not been isolated.—(Roure-Bertrand's *Bulletin*, 1920)

Preparation of Formaldehyde—

M. D. Thomas finds that silver is more active as a catalyst than either gold or copper in inducing the dehydrogenation of methyl alcohol in the preparation of formaldehyde. At the same time it causes less decomposition of formaldehyde so that the yield of this product is greater with silver than with copper or gold. By passing air at 125-150 liters per hour through methyl alcohol and then over a coil of silver gauze heated to 400° C. an absolute yield of 95% and a process yield of 56% was sustained. The coil is only heated at the commencement of the reaction, being afterwards kept hot by the heat of the reaction. The best process yields were obtained with both silver and gold catalysts when the reaction mixture contained 0.4 to 0.5 gram of oxygen per gram of alcohol. The presence of 1.7% acetone or 10% water did not influence the process appreciably.—(*J. Amer. Chem. Soc.*)

Origin of Odor in Odoriferous Substances—

The source of odor lies not within the atom, but within the molecule, between those atoms which contain the valency electrons. Odors are caused by the vibration of these electrons. The nasal sensory nerves have electron vibrations which are increased by resonance when odoriferous particles with corresponding intramolecular electron vibrations are drawn into the nose admixed with air Metallic atoms readily detach electrons, hence are not suited for the production of odor. In all the horizontal series of the periodic system, the power of giving an odor increases, as the metallic character of the element decreases, and the stability of the union between the atomic nucleus and the electrons increases.—(*Chemical Abstracts*)

Decolorization of Carbolic Acid—

For purifying carbolic acid which has already become quite brown-red on account of having been kept in a tin vessel, the receptacle is exposed for a short time to a temperature of 25° C., thus causing only a part of the contents to melt. In this state the acid is put into glass funnels and left to stand for ten to twelve days in a room which is likewise kept at the above temperature. Clear white crystals form from the drippings, which remain unchanged, protected from air and light, while by repeating the same process more clear crystals are obtained from the solidified dark-colored mother lye. In this manner 75 to 80 per cent of clear product is obtained.—(*Nat. Drug.*)

Curative Properties of Light—

The latest exponent of the curative properties of light, Dr. D. B. Ghadiali of New York City, declares that drugs cure diseases by liberating light in the interior of the body, the various colors being efficacious for different kinds of ailments. In a talk before the Allied Medical Association of America he declared the three primary colors of the spectrum were not red, yellow and blue, but red, green, and violet, since only a combination of the latter will produce white. According to his color-therapy theory, malarial fever is cured by quinine because the drug liberates a blue light internally, which drives the sickness out.—(*Standard Remedies*)

Oxalate Color Reactions—

H. Caron and D. Raquet propose a test for oxalic acid which is based on the formation of magnesic-alkaline oxalates whose solutions have a beautiful red color. A solution of the alkaline oxalate, treated with one or two drops of manganese sulphate at 1-10°, 1 cm. (about) of acetic acid. and may be a drop of potassium bichromate, maybe with some drops of concentrated alkaline hypochlorite, gives a perceptible red color with 0.01 gm. of oxalic acid.—(*Bull. des Sci. Pharm.* through *L'Union Pharm.*)

Professional & Trade Associations

STURGEON ELECTED PRESIDENT OF P. PH. A.

Walter J. Sturgeon, elected president of the Pennsylvania Pharmaceutical Association at its 43rd annual meeting held in Harrisburg recently, is one of the best known pharmacists in his section of the State, and the proprietor of a model pharmacy at Kittanning, the county seat of Armstrong county. He was born and reared on a farm near Kittanning, starting in 1885 as a druggist in the city where he is still in business. He is also one of the proprietors of a pharmacy at Ford City under the firm name of Sturgeon & Means, and an original member of the United Drug Co. since its inception.

W. J. Sturgeon

Besides his other interests, Mr. Sturgeon has served as a councilman of the borough of Kittanning for ten years, and has found time to assist in the direction and management of the Sturgeon Farms, breeders of dairy short horn cattle and Percheron horses. This establishment is one of the most attractive and noted stock farms in Western Pennsylvania.

Other officers elected were; 1st vice-president, W. B. Goodyear, Harrisburg; 2nd vice-president, J. N. G. Long, Philadelphia; secretary, Louis Saalbach, Pittsburgh; treasurer, Frank H. E. Gleim, Lebanon; local secretary, Ambrose Hunsberger, Philadelphia; member of the executive committee for three years, retiring president Robert P. Fischelis.

The meeting was well attended, and the members present inaugurated a program for future work, which contemplates great advances in the progress of pharmacy in Pennsylvania. Among the recommendations made by retiring president Fischelis were; amending the by-laws increasing the annual dues from $2 to $3; endorsing the proposal to join with other State associations in a concerted effort to relieve pharmacists of the stigma of being called retail liquor dealers; to wage an active campaign against compulsory health insurance legislation; to introduce legislation providing for the establishment of a State pharmaceutical experiment station along the lines of the Wisconsin station; advisory council representation in the Pennsylvania Department of Health; universal adoption of the metric system; continuation of the publication of the association journal; and active affiliation with the N. A. R. D. with the customary payment of $25 for such membership. The recommendations were adopted.

Prof. H. V. Arny, of New York, was elected an honorary member of the association, as was also Dr. Edward Martin, State Commissioner of Health.

It was decided to hold the 44th annual convention in Philadelphia next year, at the time of the Centennial Celebration of the Philadelphia College of Pharmacy.

At the annual meeting of the Pharmaceutical Association of Manitoba held on July 30th, the following were elected members of the council for the ensuing two years: D. E. Clement, Brandon; A. E. Higginbotham, Virden; M. Westaway, Miami; H. D. Campbell, E. Nesbitt, A. J. Brown and G. O. Hill, Winnipeg.

MONTANA PH.A. FOUNDS SCHOLARSHIP

Helena, Aug. 10.—The Montana Pharmacetuical Association held its annual meeting here in July with delegates present from every county in the state except one. The names of J. W. Seiden, Lewistown; J. N. Starbuck, Valier; S. F. Hughes, Bridger, and C. R. Fuller, Anaconda, were selected for recommendation to the governor for appointment to the State board of pharmacy. The association will provide a $100 scholarship to be awarded yearly in the school of pharmacy at the State University, Missoula. The members indorsed the work of the school and expressed the wish that it will reach a standard second to none in the country.

The following officers were elected: President, J. W. Seiden, Lewistown; 1st, vice president, J. N. Starbuck, Valier; 2nd vice president, Charles Quist, Wisdom; secretary, J. R. Reidel, Boulder; treasurer, J. N. Talbot, Manhattan. The president, secretary and treasurer were re-elected. Helena was selected as the place of next meeting.

The Woman's Auxiliary elected Mrs. J. N. Starbuck, of Valier, as president; Mrs. M. D. Chatfield, as vice president, and Mrs. D. H. Hauptman, of Gardiner, secretary-treasurer.

The entertainment program included various field sports and athletic contests, interest being centered in a game of baseball between the traveling men and druggists, the former winning by a score of 15 to 13.

NEW HAMPSHIRE

Fourteen new members were elected at the 47th annual meeting of the New Hampshire Pharmaceutical Association held at the Hotel Wentworth, Newcastle, recently. In his presidential address, Charles E. Dufort, recommended greater activities on the part of association members, and advised that the association do all in its power to have alcoholic liquors handled by the government instead of through the drug stores. He also recommended that the custom of holding midwinter meetings should be continued, a suggestion which was later approved, the association voting to hold such a meeting in Manchester.

The association voted to affiliate with the N.A.R.D. and a committee was appointed to present a bill to the next legislature which will provide that no pharmacy shall be conducted without a registered man in charge at all times. Discussion of the narcotic law brought forth some criticism of the regulations for its enforcement, many members expressing the feeling that the requirement for keeping records was so complicated the effort to comply with it made the work unduly burdensome.

The following officers were elected: President, F. H Whiting, Raymond; 1st vice president, John R. Kelsey, Newport; 2nd vice president, A. O. Bourque, Nashua; secretary Eugene Sullivan, Concord; treasurer, S. H. Bell, Derry; auditor, J. H. Marshall, Manchester; executive committee, P. H. Boise, Manchester; G. E. Philbrick, Portsmouth; and Eugene Sullivan, Concord.

The Traveling Men's Auxiliary elected the following officers: President, R. E. McLaren; 1st vice president, Harold Moody; 2nd vice president, Arthur Myers; secretary-treasurer, John McGrath.

The entertainment program included a boat trip up the river and a visit to the Navy Yard, followed by a ball game between the druggists and the members of the Traveling Men's Auxiliary, the team representing the latter being defeated by a score of 11 to 6. A dinner was served at the Hotel Wentworth after which there was dancing.

OREGON PH.A. FAVORS PURE DRUG LAW

Indorsement of a plan to have a state pure drug law enacted at the next legislature was given by the Oregon Pharmaceutical Association, which closed a largely-attended, four-day session in Portland on August 13. The action was taken following an address by Dr. Adolph Ziefle, dean of the school of pharmacy of Oregon Agricultural College at Corvallis.

"The Federal drug act simply regulates interstate commerce in drugs," pointed out Dr. Ziefle. "The purpose of a state law is to regulate the manufacture and sale of all medicinal substances within the state. By enacting such a law the pharmacists within the state are provided with a central bureau, which is prepared to supply them with all information regarding the testing of their products and regarding all legislative matters pertaining to pharmacy.

"Under the state law it would not be difficult to check up on sample medicine as sold by medicine wagons, drug vendors, grocery stores and all other agencies dabbling in the drug business. If druggists expect to keep control of their business work of this kind must be done.

"The principal policy of every drug law should be to disseminate information to druggists on all matters pertaining to professional pharmacy. It would be the business of the inspector to examine all drug stocks for the purpose of detecting samples which are not up to standard, wrong methods of storing drugs, or any other conditions which would in any way affect the quality of the drugs and their preparation. Such personal work would be of great benefit to the retail drug trade."

The convention, which was held at the Multnomah Hotel, was one of the most interesting that the Oregon association has held. Besides a large amount of business and serious discussions the social affairs of the convention were unusually pleasant. The second day of the session was given over entirely to social features, the day being spent near the city at the Oaks, an amusement resort.

Consideration of the sale of alcohol and narcotics occupied much time at the meetings. The association went on record in favor of an amendment to the Federal narcotic act that would make physicians responsible for any miscarriage of the law relative to the giving of prescriptions to narcotic patients. Under the present law, it was pointed out, the druggist is equally responsible with the physician if the latter prescribes more narcotics than is needed by the patient.

Frank Pozzi, in bringing up the subject, declared the present law, is manifestly unfair to the druggists.

The sale of bitters and other preparations having more than a half of 1 per cent of alcohol would be curbed better if the sale was limited to drug stores, in the opinion of the association. Recommendation was made for a law which should prohibit the sale of such tonics by grocers or any persons other than registered pharmacists.

The subject was brought up in an address by Deputy United States Attorney Flegel, who has charge of this department in his office. "Practically 40 per cent of those persons arrested today for drunkenness get their jags in some drug store," declared Mr. Flegel. "They drink bitters and tonics and some day, I warn you, there is going to be a systematic investigation of the sale of these so-called remedies."

Mr. Flegel described conditions he found in Southern Oregon, where in the lounging room of a small mill he found more than 300 empty bottles from patent preparations and two persons had died as the result of drinking the concoctions.

"Co-operation of the druggists who are trying to do the right thing is important," he asserted. "A few of you can spoil the reputation of the entire trade. If a man doesn't appear to need a tonic don't sell it to him.

"It will be our purpose hereafter to prosecute severely for violation of permits on tonics, bay rum, face lotions and other preparations now being distributed in large quantities as beverages. A great many firms outside the drug firms are handling these lines. We have had much trouble with the abuse of bay rum in particular by the barber supply houses."

A plea for fewer taxes for druggists .and simpler legislation was made by J. C. Perry of Salem, president of the association. The convention came to a close with the election of E. A. Robison of Portland as Mr. Perry's successor as president. Other officers elected are: Vice presidents, Claud J. Kem, of Cottage Grove; Lloyd L. Crocker, of Portland and George C. Sabin of Grants Pass; secretary, A. W. Allen, of Portland; treasurer, B. J. Jones, of Portland; executive secretary, Frank S. Ward, of Portland.

It was voted to hold the next convention at one of the Oregon beaches, the selection to be made by the executive committee.

TENNESSEE DRUGGISTS DISCUSS LAWS

Knoxville, Tenn., Aug. 2.—At the annual meeting of the Tennessee Pharmaceutical Association held here recently, much attention was given to the discussion of the distribution of narcotic drugs and liquors. State Prohibition Director Louis E. Elkins made an address in which he explained the law in its relation to druggists. The association adopted a resolution in which the druggists pledged themselves to observe all Government regulations. A list of twenty names was submitted to the Governor from which appointments to the State Pharmacy Board are to be made.

The following officers were elected: President, B. B. Kern, Murfreesboro; 1st vice president, J. E. Clark, Morristown; 2nd vice president, O. J. Nance, Jackson; 3rd vice president, J. B. Sands, Nashville; secretary, David J. Kuhn, Nashville; treasurer, T. H. Scruggs, Jackson. Chattanooga was selected as the place for next year's meeting, beginning with the third Tuesday in July, 1921.

The entertainment program included a banquet held at the Whittle Springs Country Club, about 250 guests being present. On the closing day of the convention the druggists of Knoxville closed their stores in the afternoon and evening so that both proprietors and clerks were able to take part in the outing which was held at Chilhowee Park.

ARRANGING FOR CONVENTION

St. Louis, Aug. 11.—The twenty-second annual convention of the National Retail Druggists' Association will be held at the Planters Hotel, September 20 to September 24. It is expected that almost 4,000 delegates will be at the convention.

A discussion of laws concerning the sale by druggists of alcohol and narcotics will be two of the topics brought before the convention. A series of talks on "A Day in the Drug Store" has been arranged by William Lamont, chairman of the program committee An historical display, depicting the progress of medicine will be arranged. One of the features of the convention will be "Shenlik" a Turkish festival, given by Meyer Bros.

CANADIAN PHARMACEUTICAL ASSOCIATION

Adopts Recommendations for Uniform Matriculation and Two Year Course to Practice Pharmacy—Syllabus Committee to Provide a Uniform Curriculum for Schools in the Several Provinces

The eighth annual convention of the Canadian Pharmaceutical Association was held at Montreal, August 16-19, inclusive, with a good attendance. An address of welcome on behalf of the city was delivered by Mayor Martin, which was appropriately responded to by G. E. Burbidge, Dean of Halifax Pharmaceutical College, Hon. G. E. Hughes, of Charlottetown, P. E. I.; E. S. Knowlton of Vancouver, and others. In the evening the delegates were given an informal reception by the Montreal Pharmaceutical Association.

The second day was largely devoted to sight-seeing, the delegates and their ladies being entertained by the reception committee of the Montreal Association and given an automobile tour to many interesting points in the neighborhood, concluding with a banquet at the Laval Sur Lac Golf Club. There was a smoker concert in the evening. The most important business transacted at the ensuing sessions was the adoption after considerable discussion of a report submitted by H. H. Gates of the University of Alberta, recommending a uniform matriculation standing, of a 2-year course, or 1,000 teaching hours in the subjects of materia medica, pharmacy, chemistry and botany as qualifications for entrance into the practice of pharmacy, and also the appointment of a syllabus committee to prepare what might be deemed a reasonable and uniform curriculum in pharmacy for the schools of the several provinces.

F. S. Mearns, solicitor for the association, presented the report of the committee on legislation showing what had been accomplished during recent sessions of parliament in safe-guarding the interests of the trade by securing amendments to the Opium and Narcotic Drug Act, the Proprietary Medicines Act and other legislation.

The following officers were elected: President, J. E. Tremble, Montreal; secretary, Geo. E. Gibbard, Toronto.

Legislation committee: F. J. Hoag, Col. McKenzie, N.B.; F. X. L. Rattee, P.Q.; T. H. Robinson, B.C.; E. Nesbitt, Man.; Capt. Pringle. Alta.; E. D. Power, N.S.; Mr. McMullen, Sask.; Hon. Geo. Hughes, P.E.I.

Canadian Formulary: J. A. Goyer, P.Q.; F. E. Jacobs, Ont.; J. O. Hill, Man.; P. J. Rooney, Sask.; J. Lines, Alta.; J. H. Emery, B.C.; D. A. Foster, P.E.I.; A. W. Coombes, N.B.; W. L. Ormond, N.S.

Pharmaceutical education: H. Watters, Ont.; C. W. Campbell, Man.; A. J. Lawrence, P.Q.; D. O. Spencer, N.B.; C. S. Mooney, Alta.; F. C. Stearman, B.C.; R. Martin, Sask.; Mr. Cahill, P.E.I.; G. A. Burbidge, N.S.

Commercial interests: E. S. Knowlton, B.C.; G. A. Lapointe, P.Q.; E. Clinton Brown, N.B.; T. P. Hartley, Ont.; H. D. Campbell, Man.; H. E. Koch, Sask.; A. A. Thompson, N. S.; D. O. Reddin, P.E.I.; H. J. McDermid, Alta.

Finance Committee, A. W. Grindley, P.Q.; H. Brodie, Sask.; A. J. Brown, Man.; A. R. McDuffy, B.C.; Vernon Meek, Ont.; J. A. Warner, Sask.; H. Woodworth, N.B.; M. Hallisay, P.E.I.; R. C. Fuller, N.S.

QUEBEC PHARMACISTS ELECT

The Pharmaceutical Association of the Province of Quebec has elected the following officers—President, E. Vadboncoeur; first vice-president, G. A. Lapointe; second vice-president, J W. Elcombe; treasurer, J. A. Goyer; secretary-registrar H J. Pilon. Councillors, A. R. Martineau, J. H. Goulden, A. F. Larose, J. A. Chevrier, J. Desmarais.—all of Montreal J. A Leclerc, Quebec City; A. R. Farley, Hull and F. X. L. Rattey, Berthierville.

RHODE ISLAND'S ANNUAL OUTING

"The Hummocks" at Hamilton, near Wickford, a popular shore dinner resort, was the scene of the recent annual outing of the Rhode Island Pharmaceutical Association. It was the 45th annual outing and ladies' day of the association. The trip was made by automobile, the cars leaving about 11:30 a.m., arriving in time for a lunch at one o'clock, after which followed a programme of field sports with a bake later in the afternoon.

There was a brief business session with President Earl H. Mason in the chair. Twenty-four new members were voted into the organization and following the custom of a number of years, greetings were sent to the Virginia Pharmaceutical Association, which was in session at Natural Bridge.

There was a programme of field sports for both men and women and appropriate prizes were awarded for each event. Winners in the games were as follows: 50-yard dash for proprietors, R. C. Vars; standing broad jump, Benedict O'Connor; running broad jump, Everett Brunelle; 50-yard dash (single men), Burt Ellis; (married men), Ed. Ducherne; (fat men), Tom Gibson; potato race, Arthur Hilton; string race, J. McDonald.

The committee in charge consisted of William A. Helmar, Wallace Fenner, William Strachan, James G. Johnson, Tom Jones and Clarence P. Doherty. The officers of the association are: President, Earl H. Mason; vice-president, James P. McDonald; secretary, Owen E. Barrett; treasurer, Frank B. Keighley

SOUTH DAKOTA

The shortage of skilled help in the pharmacies of the state, one of the most acute present day problems of the druggists, was largely responsible for the comparatively small attendance at the thirty-fourth annual convention of the South Dakota Pharmaceutical Association held in Brookings, on August 11. To help solve this problem the association went on record as urging a legislative appropriation for the next biennium of $25,000 for the school of pharmacy at State college, this to be used in adding to the facilities and teaching corps of the school.

The convention also will make an effort to secure enactment of a law requiring two years of college work in a reputable school of pharmacy and two years of practical experience of all candidates for registration in the state, or three years of schooling and one year's experience. South Dakota is the seventeenth state in the union recommending the adoption of this standard.

Guy G. Frary, state food and drug commissioner, discussed features of the poison law and measures in connection with the state narcotic and bone-dry laws which the legislative committee will consider.

S. C. Henry of Chicago, president of the National Association of Retail Druggists, cleared up various points relative to national rulings on narcotics, etc., and Dr. W W. Stockberger, of the bureau of plant investigations of the Department of Agriculture, Washington, D. C., outlined a plan for a survey of both state and national resources of plant materials, poisonous and medicinal, which was heartily received. A committee was appointed to make such a survey in this state, working through the school of pharmacy at State college. Dr. Stockberger spoke very highly of the poisonous and medicinal plant garden maintained by the school of pharmacy.

Officers for next year are: Selmer Solem, Kadoka, president; E. H. Hoffelt, Estelline, first vice-president; Edgar Moe, Sioux Falls, second vice-president; E. C. Bent, Dell Rapids, secretary; A. A. Woodward, Aberdeen, treasurer. The convention will meet next year at Sioux Falls.

WEST VIRGINIA

John C. Davis, retiring president, delivered the principal address at the recent annual meeting of the West Virginia Pharmaceutical Association held at Macon, in which he complimented the college of pharmacy of the University of West Virginia for the good work it had done, and denounced the handling of poisons and potable alcoholic medicines by grocers. He also recommended a change in the laws relating to pharmacists in the Federal service. Addresses were also made by Eugene C. Brokmeyer, attorney for the N. A. R. D., and representatives of the United States Internal Revenue Department explanatory of the narcotic and prohibition laws and the regulations for their enforcement.

The following officers were elected; President, Ivan S. Davis, Huntington; 1st vice-president, F. C. Kramer, Parkersburg; 2nd vice-president, S. H. Bradley, Bluefield; 3rd vice-president, P. A. George, Ronceverte; secretary-treasurer, P. H. Kelly, Montgomery; member of council, H. O. Bear, Wheeling.

Parkersburg was selected as the place of meeting in 1921.

ATTORNEY DUNN PRESENTED WITH WATCH

Charles Wesley Dunn, attorney for the American Association of Pharmaceutical Chemists, was presented with a beautiful watch by the members of that organization at its 13th annual meeting held in Chicago recently. The presentation was made by Dr. W. C. Abbott of Chicago. Besides listening to papers read by various members and the discussion of committee reports, the association reelected the following officers for the ensuing year:

President, Harry Noonan, president of the Drug Products Co., New York City; 1st vice-president, G. D. Ellyson, president of the Standard Chemical Co., Des Moines, Iowa; 2nd vice-president, R. R. Patch, treasurer and general manager of the E. L. Patch Co., Boston, Mass.; secretary-treasurer, Dr. C H. Searle, president of G. D. Searle & Co., Chicago, Ill.; members of the board of directors to serve three years; Dr. W. C. Abbott, Abbott Laboratories, Chicago; G. C. Pratt, National Drug Co., Philadelphia, and J. H. Foy, Maltbie Chemical Co., Newark, N. J. Boston was selected as the place of next meeting, which is to be held early in June, 1921.

OHIO, MOTHER OF PRESIDENTS

"The Buckeye" is the suggestive title of a little publication which the Committee on Arrangements and Entertainment of the National Wholesale Druggists' Association is issuing to keep its members posted on the plans for the 49th annual meeting of the organization which is to be held in Cincinnati on October 25 to 29 inclusive. The July issue, a copy of which we have received, contains many items descriptive of the charms of the "Queen City of the West" and its environs, accompanied by halftone illustrations of various points of interest. In comparison with the historical statement that Ohio is the mother of presidents—six presidents from the Buckeye State having occupied the White House, and even the most conservative admitting the possibility of another doing so in 1921—attention is called to the fact that the first president of the N.W.D.A., Horace Benton, was from the Buckeye State as is R. W. Bradley of Toledo, who will be the presiding officer at the Cincinnati meeting. Ohio has also furnished four other presidents of the N.W.D.A. and its preceding organization, the Western Wholesale Druggists' Association; James S. Burdsal, of Cincinnati; William J. Walding, of Toledo, Lucien B. Hall, of Cleveland, and George W. Lattimer, of Columbus.

YOUTHS IN CALIFORNIA DRUG STORES

New Part-Time Educational Act Applies to Druggists Who Must File With Director Enrollment and Permit to Work Certificates of Employees Between Sixteen and Eighteen Years of Age

W. Bruce Philip, secretary of the Alameda County (Cal.) Pharmaceutical Association, has sent to members of that organization a communication explaining the new part-time educational act enacted at the last session of the California legislature, which applies to druggists as well as employers of persons under eighteen years of age engaged in any calling. The law requires that all persons, except those exempted by special order of the authorities, 16 and not yet 17 years of age on Aug. 2, 1920, and those who reach the age of 16 after that date, must enroll within 5 days after the date to be set by the school authorities, and thereafter within 5 days of attaining the age of 16. The first enrollment is effective until 5 days after the opening of the next school term. These persons must enroll again each term within 5 days of the opening date set by the Board of Education until they are 18 years of age. They will receive two "Enrollment and Permit to Work" Certificates, one to be filed with employer and one for their parents.

All excepting high school graduates of this age must attend; (a) Either regular day school, (b) or regularly established part-time classes for 1 hour a day for 4 days a week between the hours of 8 a.m. and 5 p.m. during 36 weeks of the school year, securing credit for 144 hours of school.

Druggists within 5 days after employing one of these youths must fill out 2 copies of the notification of employment blanks supplied for this purpose by the Board of Education; 1 copy the employer must mail to the Director of Part-Time Education and one copy to be kept with the youth's Enrollment and Permit to Work blank as evidence he is complying with the law. Lack of either of these two documents is prima facie evidence that the employer is guilty of misdemeanor and subject to fine, imprisonment, or both.

According to Mr. Philip it is up to the parent to compel attendance at school by the youth; it is up to the employer to allow time for this schooling. Travel time going and coming between the school and place of employment is not to be counted either as part time or part of his work. Employers cannot work youths over 8 hours a day which includes the 1 hour at school. Employers if they deduct part of the wage for this 1 hour at school are liable to place their employee in a part-time class which might make his wage for the 7 hours in excess of the 8 hour wage. Youths under 16 are compelled by law to attend regular day schools.

Druggists are advised not to take employees' age for granted, but to demand and obtain definite information, and to advise employees in instruction in subjects that will make the youths better employees. Classes will be maintained only between the hours of 8 a.m. and 5 p.m. and employers should see that their employees obtain the most satisfactory hour for all concerned. No youth should be permitted to put in more than 8 hours in one day between employment and compulsory education. A youth who has attended a part-time class for one hour on Monday, can then only work 7 hours on that Monday, either for *one* or *more* employers. If the youth does not attend a part-time class on Tuesday, he may be worked 8 hours on Tuesday.

Druggists in Olean, N. Y., have agreed to close their stores at 8 o'clock every night except Saturday, when they will keep them open until 10 o'clock. On Sundays and holidays the druggists will be open for business from 9 o'clock in the morning to 1 o'clock in the afternoon.

Boards of Pharmacy

ILLINOIS

At the meeting of the Professional Committee of Illinois held in Chicago on June 16 to 19, the following applicants passed successful examinations:

Registered Pharmacists.—Paul E. Barton; Carl J. Bass; Hyman Berkin; Thomas W. Black; Daniel Brodsky; Glen C. Bushby; John J. Cagney; Harry Cohen; Henry G. Engels; Eric J. Erickson; Gordon E. Ericson; John J. Finnigan; Anton H. Florian; Edward J. Forbrich; Clarence W. German; Zygmunt Glowacki; Ira Goldmann; Isadore H. Gross; Seward H. Guinter; Vincent Hoelzel; Edwin C. Holden; Harry J. Jensen; Otto H. Kaiser; Pinchos Kaplan; Louis Karel; Joseph E. Kostanski; H. N. Lesser; Harry Levin; Baxter E. Lightfoot; Louis Litton; Owen M. Lyons; T. R. Meclewski; Albert S. Mesirow; Harold C. Meyer; John Fred Meyer; William Mishlove; Arthur H. Mueller; Frank H. Musket; Stanley J. Novotny; H. C. Pahl; Leon A. Rambo; C. A. Rassmussen; Edward Robbins; Leo P. Rozanski; Fred I. Schwartz; Gust Silberberg; Isadore A. Simon; Geo. J. Sladky; Eugene Wm. Smith; Carl Speckhart; Solomon Stein; Victor M. Stein; Peter J. Stoltman; George A. Subert; Arthur W. Tingler; Ninetta A. Vella; Isidor Walter; Isador Weber; Homer L. Wherley; August Yonaitis, all of Chicago and Max E. Ahnert, Geneseo; Thomas E. Black, Clayton; Henry A. Bradshaw, Monmouth; Henry A. Buerkle, DuQuoin; John Carson, Mahomet; Milton T. Cornish, Belvidere; Ralph D. Davidson, Harvard; W. R. Esmond, Waukegan; Dennison D. Foster, Granite City; Leo J. Gossmann, Pana; Paul C. Gossmann, Pana; Lee H. Hobson, Rockford; Richard B. Kinsella, Springfield; August F. Lohmann, Granite City; Elmer W. Lystlund, Waukegan; Douglas G. Little, LaGrange; George L. Morris, Stanford; Herbert L. Neumann, Aurora; Leonard J. Nussbaum, Joliet; Joseph Robert Obermann, Springfield; Clyde M. Pate, Shelbyville; Otis G. Perry, Dubuque, Iowa; Charles E. Post, Oak Park; Ray C. Purcell, Equality; Perrie C. Still, DeKalb.

Assistant Pharmacists.—Frank Alex; David Altman; Peter A. Bach; Sister Mary R. Burke; Marie F. Combacker; Thomas F. Crouse; Grayce Edna Cunningham; George E. Curran; Louis Dorszweski; Karl Eder; Albert I. Evien; Howard Falkenstein; Walter R. Fallon; Carl C. Felger; Isidor Fisher; John J. Forman; Helen H. Haag; Morris Indech; Leonard F. Johnson; Walter W. Johnson; Raymond A. Kopp; Leo W. Kuecks; Raymond A. Leach; Max J. Ludgin; R. Martin; Philip Mendelsohn; John F. Meyer; Abraham Polan; Henry A. Pomering; Henry C. Saltiel; S. Schneberger; Sidney Schmidt; N. C. Schultz; Stanley L. Stanczak; William Stoball; A. Stulik; Edward Sykora; M. H. Whitney; Joseph J. Wielgus; Leon Wlekinski; Henry E. Zimmerman, all of Chicago and John Carson, Mahomet; Beulah Chapman, Lemont; Moses P. Covnot, Streator; Raymond E. Dunn, Decatur; Thomas B. Fraser, Evanston; Herbert E. Funk, Aurora; Paul C. Gossmann, Pana; Carl G. Hacker, Blue Island; Charles R. Lawton, Taylorville; Howard A. Matthews, Pekin; Edward J. Merriman, Joliet; A. L. Milbrandt, Elgin; J. W. Musgrove, Mattoon; J. L. Petranek, Kankakee; C. K. Plummer, Fennville, Mich.; E. E. Robbins, Lombard; W. J. Robinson, Peru; Theodore Scharle, Oak Park; H. C. Schmid, Peoria; Lloyd Stoner, Rock Falls; Edwin V. Woolley, Streator.

The next examination for registered pharmacists will be held in Chicago on September 7; for assistant pharmacists, on September 9.

KANSAS

The names of the candidates who successfully passed the examination of the Kansas Board of Pharmacy held in May at the University of Kansas, Lawrence, are as follows: Norman Manley, Axtell; W. V. Benny, Pittsburg; W. E. Daniels, Wichita; L. B. McCartney, Galena; Judson L. Morehead, Smith Center; Glen E. Smith, Coffeyville; Samuel A. Selig, Wichita; J. C. Ulrey, St. John; Harry G. Williams, Savonburg; Glen E. Wilson, Lawrence.

KENTUCKY

At a meeting of the Kentucky Board of Pharmacy held at Lexington July 13 and 14, a class consisting of twenty-nine applicants for registered pharmacist and ten for assistant was examined, the following being successful:

Registered pharmacists: E. K. Beans, Winchester. Elmer L. Glaser, Newport; A. L. Naegele, Louisville; Carl A. Neff, Louisville; Samuel C. Reid, Lexington; Frank J. Riesser, Cincinnati, O.; Harry A. Schwartz, Cleveland, O.; W. H. Settle, Louisville; Peter B. Smith, Louisville; Daniel B. Stuntebeck, Cincinnati, O.

Assistants: Bernard H. Boeckman, Louisville; John O. Boynton, Princeton; Clifford D. Lohman, Cincinnati, O.; Geo. Wipper, Cincinnati, O.; James W. Burris, Henderson; Miss Mary Martha George, Winchester; Claude F. Holland, Scottsville; Henry Neumayer, Jr., Louisville; William E. Weber, Louisville, Ky.; Frank R. Westcott, Lexington.

The examination fee for registered pharmacist was fixed at $15 instead of $10 as heretofore, and that for the assistant at $10 instead of $5.

The next meeting of the Board will be held at Dawson Spring, October 12 and 13.

LOUISIANA

At the quarterly meeting of the Louisiana Board of Pharmacy held in the chemistry building of Tulane University on June 4, the following applicants were successful in examination and granted certificates:

Registered pharmacists: Eugene I. Dreher, Clinton; Louis E. Commagere, Jr., New Orleans; Alexander Bruce Mouton, Lafayette; Cynicus Darius Tisdale, Bogalusa; Henry E Bonvillain, Abbeville; Joseph Bernard Dalier, New Orleans; Arista J. Begnaud, Lafayette; Robert Bruce King, San Francisco, Cal.; Jacob J Herbert, Berwick; Eric Haschal Hyde, Poplarville, Miss.; Robert J. De Blanc, Eunice; Leon P. Spears, Baton Rouge; Louis E. Bloom, Talluah; Earl J. Bland. New Orleans; Albert H. De Seamus, New Orleans; Charles Thompson Dick, New Orleans; William August Worner, New Orleans; Claude A. Marlette, New Orleans; John Catalano, New Orleans; Thomas Ray Edwards, Paragould, Ark.; Louis C. Hudson, Monroe, Claude O. Bullock, Baton Rouge; Francisco J. Santos, Anasco, P. R.; William A. Nail, Forrest City, Ark.; Ernest A Touard, New Orleans; Arthur Dale Laney, New Orleans; Edwin A. Russell, New Orleans; Thomas A. Wild, New Orleans.

Qualified Assistant pharmacists: Morris Breen, William P. Schreiner, Albert J. Laburre, Miss Catherine Cutitto, John S. Gray, Carl Marcel Lafont, all of New Orleans; Rene Drouet, Jr., Alexandria, La.; Miss Consuelo Rodriquez Rev. Madrid, Spain; Miss Theresa Lambrecht, Gulfport. Miss.; Thomas W. Garrett, Mount Willing, Ala.

Registered by reciprocity: Carl C. Waterbury, New Orleans, registered in Iowa; Jack Pacet, Farmerville, La., registered in Arkansas; William Lincoln Waldrop, Rayville, La ; Ambrose B. Frost, Fallon, Nevada, registered in Nevada; Wiltse Joseph Roule, Mansura, La., registered in Georgia; Rodney L. Stevenson. Lake Charles, La.; W. B. Sellers, New Orleans, both registered in Mississippi.

Registered apprentices: Samuel Viales, Roy J. Lessee, Frank A. Pragher, Miss E. D. North, Ernest Masson, Fred B. Roberts. George J. Marzloff, Nick Parique, Miss Cora Rigby, Mrs. George Schriener, Jr., Herman Velez, J C. Harston, Roy C. Jensen, all of New Orleans; Conrad Comfort, Abbeville, La.; Philip Laborde, Alexandria, Donald C Brown, Opelousas; C. H. Lavigne, Shreveport; Frances Mathilde Edwards, Abbeville; David Waliace Hooper, Zwolle, La.

MINNESOTA

The Minnesota Board of Pharmacy has granted certificates to the following applicants who successfully passed the recent examination:

Registered pharmacists: A. E. Anderson, Brainerd; G. L. Brobeck, Kenyon; C. M. Chambers, Minneapolis; J. F. Courtney, Minneapolis; T. H. Crahan, Minneapolis; D. L. Hanson, Sauk Center; H. P. Heywood, Osakis; A. L. Helland, Pipestone; S. K. Hughes, Minneapolis; Einer Johnson, St. Paul; B. T. Langland, Zumbrota; Charles W. Mihe, St. Paul; A. S. Nord, Red Wing; H. A. Seiben, Hastings, and R. E. Townsend, Ivanhoe.

Assistant pharmacists: Beatrice Chondek, Seaforth; L. E. Emanuelson, North Branch; C. L. Flanders, Minneapolis; A. P. Grandin, Thief River Falls; William G. Haag, Belgrade; D. R. James, Ely; Evelyn Nordstrom, Sacred Heart; R. E. Nygren, Canby, and A. H. Taylor, Owatonna.

The board through Secretary H. Martin Johnson announced its intention to inspect all drug establishments in the State to ascertain if a registered pharmacist is in charge of each store and if when absent from the establishment whether a registered assistant pharmacist is placed in charge. The board holds that only registered men should compound medicines.

NORTH DAKOTA

At the recent meeting of the North Dakota Board of Pharmacy held at the North Dakota Agricultural College, five applicants were granted registered pharmacist's certificates, nine were given assistant's certificates, and three were granted registration by reciprocity, as follows;

Registered pharmacists: E. W. Gaebe Dickinson; Fred N. Koester, Fargo; E. G. Ottis, Abercrombie; E. C. Whiting, Wahpeton, and A. N. Anderson Grand Forks.

Assistant pharmacists: J. C. Bilden, Northwood; C. W Durkee, Glasgow, Mont.; Charles A. Collier, Cogswell; Arthur E. Johnson, Hawley: Walter L. Needham, Finley; Andrew Moen, Fargo: Thomas W. Peterson, Fargo; George W Thamert, LaMoure; and Henry M. Trepanier, Grand Forks.

Registered by reciprocity: Albert A. Glotzbach, Anamoose: Fred Hollingsworth, Killdeer, and Walter F. Kolowski, Bismarck.

PENNSYLVANIA

Harrisburg, Aug. 16.—L. L. Walton, secretary of the Pennsylvania Board of Pharmacy, announces that 220 applicants for certificates as pharmacists and 214 applicants for certificates as assistants took the recent examination held by the Board. Of these 137 were successful as pharmacists and 112 passed the tests as assistants. The next examination in the Williamsport High School, Williamsport, on September 3 and 4.

Under the Pennsylvania law providing for the registration of pharmacists and assistant pharmacists, honorably discharged from service in the Army or Navy of the United States while at war with Austria-Hungary and Germany, the applicant must file with the board a certification of his registration by the board of pharmacy of the State in which he is registered, submit his discharge for examination and return, and pay a fee of $12 for a certificate of permanent registration as a pharmacist, or $5 as an assistant pharmacist. In each case the law requires that the applicant must have been registered prior to being discharged.

NEW YORK

Secretary Warren L. Bradt of the New York State Board of Pharmacey sends the Era the following list of candidates who successfully passed the June, 1920 examination held in this State:

Pharmacists: John J. Geraghty, Ralph T. Curtis, Caplan Altman, Loretta E. Graney, Leslie C. Edsall, William R. Batchelor, Harland R. Eckler, Benjamin Rosenberg, Herman D. Solow, Robert Lieberman, Ida Koplin, Samuel Rubin, Joseph Montesano, Anthony J. Greco, Harry Messing, Adolph Gluckstern, Edward F. Mafera, Morris Erger, Alphonse Pace, Nathan L. Chavkin, William G. Stevens, Ida Flomenbaum, Isidor E. Cantor, Alfred J. Krieter, Solomon Friedman, Martin Schaffer, Anthony Getz, William G. Hague, Frank R. Friedman, William H. Brossway, Hazel R. Peck, Grace M. Howe, John Henry Curran, James A. Wyman, Thomas P. Kerwick, Catherine M. Zarcone, Charles I. Saidman, Max Bergman, Michael Davis, Julius H. Fried, Charles A. Herb, Attilio Panisside, Harry Rosenzweig, Abraham Sandler, George M. Silverman, Frank Solomon, Philip Weinstein, Allen P. Lyon, Willard K. Barton, William Pearson, Sarah E. Graney Henry J. Carpenter, Harry A. Levine, Dwight L. Feek, Daniel J. Flynn, Charles Amodei, Peter DeLuca, Evelyn H. Barrette, Chaim Landau, Morris Kaufman, Walter E. Heaslip, Harold Baylis, Samuel Berkowitz, Salvatore J. Gullo, Earle D. Armstrong, Peter J. Fuhrman, Jacob Schwartz, Johanna F. Gribble, Freda Roochvarg, Max Ehrenberg, David Manashaw, Bernard J. Dunn, William A. Montuori, Aaron M. Hyams, Pasquale Araguisto, Clifford T. Thorne, Earl Waldock, Howard Snow, John J. Bressler, Thomas P. Mullen, Jr., Raymond P. Chrisler, Raymond J. Dittly, John A. Napieralski, Benjamin Waldow, Morris Bigman, William A. Feldman, Wolfe Greenberg, Moe Michaels, Jacob Ramras, Charles J. Sackman, Eli Seligman, Benjamin Sperling, Samuel Thomas,

Druggists: Ernest A. Lauers, Oscar Marchiano, Joseph Johnston, George T. Booth, William C. Tiernan, Ignatius E. Polowy, Pauline M. Randall, Earle Parella, John J. Jennings, Harold S. Newton, Clarence Van Vleck, Abe Naumoff.

Junior Pharmacists: Preston Greene, Jr., Harry A Levine, Harold W. Levy, Gerschen Cohen, Joseph Marino, Simon Philip German, Samuel R. Sirote, Morris Besunder, Herbert C. Kassner, William R. Albertson, Isidor L. Sommer, Alexander Gottila, Samuel Hutt, Abraham Tobin, Rose H. Lax, Kieve Rosenkranz, Abraham Kitzes, Abraham Saperstein, Solomon Katz, Stellario Marchese, Morris Gold, Moses Ducorsky, Edwin C. Terhune, Frank J. Jacobi, Edward L. Wesley, Macey Kantz, Edmund C. Rosenkranz, Raymond H. Schick, Morris Portugal, Samuel Rubin, Emil Feldberg, Nathan Lehrhaupt, Emanuel M. Eigenmacht, Isidore Greenberg, Nicholas A. Coppola, Samuel Cohen, John Kovacs, Louis H. Cure, Herman Rosenbaum, Louis Ragovin, Gemma M. Folcarelli, Ida Baratt, Theodore Miller, Jacob Guze, Charles Chaber, Miriam Block, William A. Montuori, Beatrice S. Banzer, William Perry, Charles Gargana, Jr., Allen W. Folts, Edwin R. Usiak, Henry T. Jans, Gaylord D. Cummings, Joseph Geraci.

SOLICITING ORDERS ILLEGAL ADVERTISING

In a recent communication to the members of the Alameda County, Cal., Pharmaceutical Association, Secretary W. Bruce Philip brings out the point that soliciting of liquor prescriptions by telephone, even if under pretense of notifying the physician that liquor is in stock, is considered advertising and druggists are warned to discontinue the practice. He advises that until a definite ruling is obtained, it would be wise for druggists soliciting physicians' business, to eliminate from their advertising any reference to the eighteen U. S. P. and N. F. formulas and certain pepsin preparations classed by the authorities as liquor. Reports are that all manufacturing pharmacists will shortly discontinue the manufacture and sale of essence of pepsin under 1:4000 strength, and also, elixir of lactated pepsin falling below the grade known as 100-gr. Undoubtedly stock now on hand can be bought on Form 1410. Solutions of pepsin, non-alcoholic, may be placed on the market.

The opinion previously expressed by the Internal Revenue Department that a druggist need not have a retail liquor dealer's license to manufacture or sell, when sufficiently medicated, U. S. P. and N. F. preparations listed as fit for beverage purposes has been definitely decided. Prohibition mimeograph Regulations No. 97, just issued, states that wholesale druggists and wholesale pharmacists, holding permits to sell intoxicating liquors in wholesale quantities, may not sell less than five wine gallons at the same time to any one purchaser, but may sell several different kinds of intoxicating liquors in quantities of less than five gallons, providing the total order and sale is five wine gallons.

REGISTRATION OF TITLES IN MEXICO

A decree issued by the Mexican Government under date of July 7 applies to the registration and practice of medicine and pharmacy in Mexico City, D. F., as follows:

"Persons in the Federal District who are practicing the profession of medicine, surgery, pharmacy, obstetrics, odontology and homeopathy and have an official title, are obliged to notify in writing the Department of Public Health of such practice within a term of thirty days, counting from the date of the publication of these regulations, or on the date they begin to exercise the practice of such profession, so that a directory of their names may be compiled and their signatures registered in accordance with the provisions of the law. If the title of any interested person is not registered with the Department at the time of filing this information, he must make effort to secure such registration, proving in legal form the existence of such title. Under the provisions of the decree, an official title is defined as one that has been accepted by the National University or by the Military Medical School."

CHINESE DRUG SHOPS SELL WESTERN GOODS

"China offers to the drug trade an undeveloped market greater than that to be found in any other part of the world," is the statement of Theodore L. Chen, B.A., editor of the "Chinese Chemist and Druggist," a new monthly publication for the drug trade issued in Shanghai, with the avowed object of "bringing together the Chinese retailer and the manufacturer of Western style goods."

According to the journal, "almost every day a new 'foreign style' dispensary is opened in some town in China, and every day the old style shops lose a little ground. Western medicine has come to China to stay. Chinese doctors trained in Europe or America are teaching in every corner of the country modern lessons of personal and public hygiene, and there follows as a natural consequence a constantly increasing demand for the goods in modern-style dispensaries. These Chinese dispensaries are clean and carry a wide variety of up-to-date stocks. They advertise in their local papers and utilize the window display to attract customers."

Of course, the presentation of these facts is an argument used by the journal to influence advertisers reaching out for Oriental trade, but the statement nevertheless correctly represents the changing conditions in China. The "Chinese Chemist and Druggist" is printed in the usual "tea chest" characters, and besides carrying a large number of advertisements descriptive of American-made goods, contains much information of interest to the drug trade generally.

MEDICAL JOURNAL FOR PALESTINE

Palestine's first medical journal "Harefooah" (Medicine) has just made its appearance, published by the Jewish Medical Association of Palestine. The journal is a quarterly and its first issue is dedicated to the memory of the Jewish physicians and nurses, who "lay down their lives in the years of upheaval in the Holy Land."

The objects of the medical association, as outlined in the quarterly are to strengthen and coordinate the medical forces of the country and to collaborate with doctors outside Palestine; to give the medical work a national as well as a humane value; to prepare a native soil for Jewish scientists; and to help in the creation of the Hebrew University.

Medical work in Palestine has advanced rapidly during the past two years, stimulated by the American physicians and nurses with the American Zionist Medical Unit, who have taught the native members of the profession, all the latest ideas in medical work and sanitation. Clinics are held by the American doctors, to demonstrate to the Palestinian doctors, the most modern methods, and lectures are given at regular intervals. The hospitals and clinics established by the American Zionist Medical Unit in Palestine, are planned as the beginnings of the Medical College of the Hebrew University at Jerusalem, which Prof. Patrick Geddes, noted town planner of the University of Edinburgh, is designing.

FALL MEETING OF AMERICAN CHEMISTS

Arrangements for the Fall meeting of the American Chemical Society, to be held in Chicago, Sept. 6 to 10, inclusive, have been completed, and the preliminary program which has already been announced indicates that the meeting will be one of the largest gatherings the Society has ever held. The Chicago Section, the largest section of the society west of the Alleghanies, has charge of the entertainment of members, and has established headquarters at Congress Hotel, Michigan Boulevard and Congress street, where the first general meeting of the Society will be held on Tuesday morning, Sept. 7. Meetings of the various divisions have been provided for. The secretary of the Pharmaceutical Section, to whom papers for the meeting should be sent, is Edgar B. Carter, 2615 Ashland ave., Indianapolis. It is noted that the Council of the Society has been asked to change the name of the Division of Pharmaceutical Chemistry to "Division of Medicinal Products Chemistry."

The annual meeting of the San Francisco Retail Druggists' Association was held recently at a leading cafe and officers for the ensuing year were chosen as follows: President, K. B. Bowerman; vice-president, A. P. Komsthoeft, and secretary-treasurer, W. Bruce Philip.

Schools and Colleges

MISS FOLTZ, WINNER OF HONOR PRIZE

Miss Dorothy E. Foltz of Winston-Salem, N. C., has just completed her college training in the School of Pharmacy of the University of North Carolina and has accepted a position as prescriptionist with Miss Mabel Barnhill of Bethel, N. C., who is one of the first, if not the first, women to conduct a drug store in North Carolina. At the recent commencement of the University Dean Howell announced that Miss Foltz was the winner of the Bradham honor prize. This prize is awarded each year to that graduate who throughout his or her college course in pharmacy has maintained the best scholarship average in the class.

Miss Dorothy E. Foltz

NORTH CAROLINA

At the 125th commencement of the University of North Carolina held at Chapel Hill the following students were graduated from the School of Pharmacy: D. D. Hocutt, Hillsboro; Laurance M. Ingram, High Point; Guy S. Kirby, Marion; Vernon D. Lea, East Durham; Perry J. Melvin, Roseboro; John C. Mills, Rutherfordton; Fred M. Patterson, Chapel Hill; M. B. Phillips, Concord; Harry W. Walker, Norlina; Thomas P. Dawson, Tarboro.

ST. LOUIS

At the recent annual meeting and banquet of the St. Louis College of Pharmacy, held at the American Annex Hotel, St. Louis, all of the officers were re-elected, as follows; President, George R. Merrell, president of the Merrell Drug Co.; vice-president, Carl F. G. Meyer, president of Meyer Bros. Drug Co;; treasurer, Fred W. Sultan, of the Sultan Chemical Co.; secretary, W. K. Ilhardt; corresponding secretary, Leo Suppan. Following the election the officers made brief addresses and plans for the coming year were formulated.

NORTH PACIFIC

Only four degrees in pharmacy were granted at the recent commencement of the North Pacific College of Dentistry and Pharmacy in Portland, Ore. This was due to an extension of the course by which the class that would have regularly graduated this Spring will complete its work next year. The graduates are: John Gurney Densem, Masuo Namba, Elmer Thomas Warner and Gertrude Elizabeth Wood.

At the recent meeting the following members of the Faculty were chosen for the ensuing year: Herbert C. Miller, M.D., D.D.S., president; Frank C. Pearn, Phm.B., Ph.C., D.M.D., secretary, professor of pharmacy and materia medica; Edward C. Callaway, B.C., M.S., professor of chemistry; Emil F. Pernot, M.S., professor of bacteriology and director of laboratories; J. Allen Gilbert, M.D., professor of physiology; Coy B. Woodard, assistant professor of chemistry and instructor in physics; Calvin S. White M.D., professor of hygiene, sanitation and dietetics; Terrence H Eckerson, Ph.G., Ph.C., professor of botany and pharmacognosy, and instructor in chemistry. Todd E. Rudd, B.S., A.B., D.M.D., professor of biology and instructor in bacteriology; Benjamin Vitou, D.M.D., professor of histology and radiography; Alfred N. Smith, A.I.A., instructor in drawing, card and sign writing; Fay C. Robinson, B.S., instructor in chemistry; Claude W. Clifford, instructor in drawing.

CREIGHTON

Dean Howard C. Newton has announced that in accordance with the plans recently formulated at the annual meeting of the American Conference of Pharmaceutical Faculties, Creighton College of Pharmacy, Omaha, Neb., will extend its course of instruction. While the minimum course for the coming session will remain at two years, with the third and fourth years optional, the three-year course will be adopted as the minimum in 1923.

MASSACHUSETTS C. P. SORORITY

The Massachusetts College of Pharmacy had no less than eleven girls in the graduating class from the regular course this year, and one from the graduate class. It was in this institution that the Lambda Kappa Sigma sorority for girls was organized in 1913. It has now developed into a national organization with a membership of eight Chapters. These are Alpha Chapter of Massachusetts College of Pharmacy, acting as the Grand Chapter; Beta, Albany College of Pharmacy; Gamma, Chicago College of Pharmacy; Delta, Pittsburgh College of Pharmacy; Epsilon, Brooklyn College of Pharmacy; Zeta, California College of Pharmacy; Eta, Philadelphia College of Pharmacy; and Theta, Creighton College of Pharmacy.

One interesting incident of the Commencement in the Massachusetts school was the award of the prize for excellence in scholarship in senior subjects. No less than three of the five prizes were awarded to graduating members of the Alpha Chapter of Lambda Kappa Sigma. The one for Excellence in Pharmacy was given to Mrs. Jennie Elizabeth Thompson; the one in Materia Medica, to Miss Susan Russell Beetle; and the one in Analytical Chemistry to Miss Dorothy Markels.

Other colleges which are planning new buildings or fixing the ones they already have, may be interested to know that the room which was intended for the Girls' Study in the original plans of the new building of the college, has already proved too small, as the attendance of girls is much larger than was anticipated when the plans were made. The room first intended for the purpose is now the Alumni Room, and as it has an adjoining kitchenette, it proves an ideal place for small gatherings where refreshments are to be served.

The permanent girls' quarters have been transferred to a suite in another part of the building. The large corner room originally used as a study, is being redecorated for them this summer, and additional furniture of brown wicker with chintz cushions installed. The original furniture is oak upholstered in tapestry of exceptionally pleasing design and coloring. It is here that many of the W. O. B. A. R. D. meetings are held, usually in the Alumni Room.

The North Carolina Pharmaceutical Association has selected Charlotte, N. C., as the place of next meeting and extended an invitation to the South Carolina Pharmaceutical Association to meet in joint session in 1921. The invitation has been accepted.

Educational Department

Devoted to Information, Criticisms and Suggestions on Pharmaceutical Topics of Special Interest to Era Course and Other Students.

Conducted by C. VERNE NICHOLS, Ph.C., B.A., M.S., Director of the Era Course in Pharmacy.

QUESTIONS AND ANSWERS

For a considerable period there has been conducted in this department a series of questions and answers designed to help students and others interested in the catechetical form of imparting instruction. Following the style of questioning employed by boards of pharmacy in conducting examinations we have tried to bring to the mind of the reader not a few of the points which would serve to prepare students for these ordeals. Besides students preparing for such examinations, many pharmacists, although they have been practicing pharmacy, some of them for years, have expressed their interest in this department. The reason for this interest is not difficult to state. The information thus given can be taken by the old timers *pro re nata*, and the doses to be administered at any one time are easily adjusted to suit the convenience of each self-prescriber; in any event any pharmacist, as many old druggists have done, can make use of the questions and answers to review points in pharmaceutical practice that had almost, if not entirely escaped his memory.

In the October issue of the Era we propose to depart a little from the form we have been following in this department, and will hereafter print the questions consecutively numbered in one issue, and give the answers to the same in the next following issue. While the questions will be of a general nature and of interest to druggists, drug clerks and students, the department is primarily for the younger generation who are growing up to be pharmacists, and we want to get them interested. Subscribers and Era Course students are invited to submit questions and answers to be thus used, and also, to test their own knowledge by sending in answers to other questions which may be printed.

QUALIFICATIONS TO PRACTICE PHARMACY

The Director is frequently asked by those who are considering the taking up of the study of pharmacy what qualifications they should possess to become good pharmacists. He has always informed them as to the educational qualifications necessary to comply with the requirements of the pharmacy laws and various other particular facts pertaining to drug store customs. Nearly twenty-five years ago the late Professor Oscar Oldberg gave the general qualifications for the practice of pharmacy in the following language:

Persons ambitious to become good pharmacists must be intelligent, of good habits, orderly, systematic and willing to perform every duty belonging to the occupation of the pharmacist and the routine of the retail drug store. Innate integrity of purpose is indispensable. Tact and good manners are essential qualifications. Prospective pharmacists must be scrupulously neat and imbued with a natural and uncompromising aversion to dirt and disorder. They must be animated by the desire to attain a high degree of professional knowledge, skill and usefulness in their chosen calling, and should always continue to be guided by an earnest devotion to the science and art of pharmacy itself rather than by the selfish desire to secure pecuniary gain. The apprentice or drug clerk should respect the dignity of all useful labor and must be willing at all times to do whatever duty he is competent to perform as soon as it presents itself, and especially should he be ever ready to contribute his full share toward the enforcement of strict cleanliness and order.

The experience of successful pharmacists will accord with Prof. Oldberg's summary of general qualifications for the practice of pharmacy. If the student is actuated by such ideals he will, in the great majority of instances, not only make a creditable record as a student, but he will become a successful pharmacist. General qualifications, plus a special education in scientific pharmacy are the principal factors in winning drug store success.

QUERIES ANSWERED

◆ Questions answered under this caption are of a general nature and are numbered consecutively, beginning with the issue of the Era for November, 1918.

426. What are the principal alkaloids extracted from cinchona?

Quinine, quinidine, cinchonine and cinchonidine.

427. Which of these alkaloids are soluble in ether?

Quinine, quinidine and cinchonidine.

428. What salts of quinine are official and what is the average pharmacopoeial dose of each?

Bisulphate, dihydrochloride, hydrobromide, hydrochloride, salicylate, sulphate, and tannate. Excepting the last named, the average dose of each is 1½ grains; dose of the tannate, 3 grains. Quinine and urea hydrochloride, a compound of the hydrochlorides of quinine and urea containing not less than 58 per cent of anhydrous quinine, is also official, the average dose being 15 grains. It is given hypodermically in the treatment of malaria and pneumonia, and is also much used as a local anesthetic as a substitute for cocaine.

429. What alkaloid derived from cinchona is described as having "an intense and bitter taste," and yet is used in making a so-called "bitterless" syrup?

430. Quinidine, which because of its sparing solubility in water, is used in making the N. F. syrup of quinidine, or "bitterless syrup of quinidine."

431. What pharmacopoeial salt of quinine is described as being "odorless and tasteless"?

Quinine tannate, which is said to be the least efficacious of all the quinine preparations, but which was introduced into the Pharmacopoeia because its comparative lack of taste, due to its insolubility, made it suitable for administration to children by suspension in thick syrup.

432. What quinine salts are official in the National Formulary?

Glycerophosphate, hypophosphite, and valerate.

433. What is oleate of quinine?

A preparation containing 25 per cent of quinine in oleic acid.

434. What are glucosides?

As usually defined, the term is applied to a group of substances (chiefly of vegetable origin) which, by the action of dilute acids or enzymes, are decomposed with the production of a sugar, and one or two other substances not carbohydrates.

435. Name five official drugs containing glucosides?

Glycyrrhiza, gentian, strophanthus, squill and digitalis.

436. What official glucoside is directed to be preserved in well-closed containers?

Salicin. Strophanthin, a glucoside or mixture of glucosides obtained from strophanthus, must be similarly preserved and protected from the light as well.

437. What is eugenol and from what sources is it obtained?

Eugenol is an unsaturated, aromatic phenol, obtained from oil of clove and from other sources, such as the oils of calamus, camphor, cananga, nutmeg, pimenta, patchouli, etc. In plants, eugenol is occasionally found in the form of a glucoside from which it can be obtained by means of hydrolysis produced by fermentation.

438. What is Benzaldehyde? Coumarin? Vanillin?

Benzaldehyde is an aldehyde produced synthetically or obtained from oil of bitter almond. Coumarin is the anhydride of ortho-oxycinnamic acid, occurring naturally in tonka melilot and other plants, or prepared synthetically. Vanillin is methylprotocatechuic aldehyde, occurring naturally in vanilla or prepared synthetically.

439. What is synthesis?

Synthesis is the building up of compounds from their constituents.

440. Name two official gases?

Nitrogen monoxide and oxygen.

441. Name two official trioxides?

Arsenic trioxide and chromium trioxide.

442. What is chlorophyll?

It is the name given to the green coloring matter of plants. It contains iron in its molecule and occurs as microscopic granules distributed through the cell protoplasm in all green portions of the plants.

443. What is the function of chlorophyll?

It is an important constituent of all foliage leaves and is essential to the digestive processes performed by the leaves of most plants. In conjunction with sunlight, chlorophyll is able to bring into combination carbon dioxide and water, and from them it elaborates the material which is utilized by the living matter in the further development of the plant.

444. What terms are employed to designate the duration of leaves?

Persistent or evergreen, if they remain green on the tree for a year or more, deciduous if unfolding in spring and falling in autumn, and caducous or fugacious, if falling early in the spring.

445. What is meant by leaf texture?

Leaves are described as membraneous, when thin and pliable; succulent, when thick and fleshy; scarious, when dry and scaly; coriaceous, when thick and leathery; and petaloid, when of some brilliant color different from the usual green.

446. What are four common names for hyoscyamus?

Henbane, stinking nightshade, insane root and poison tobacco

447. What are four official substances obtained from Bos taurus?

Sugar of milk, oxgall, gelatin and stearic acid.

448. What are the official names of (a) volatile liniment? (b) Lugol's solution? (c) Lead water? (d) carron oil?

(a) Ammonia liniment; (b) compound solution of iodine; (c) diluted solution of lead subacetate; (d) lime liniment.

449. What is a carminative?

It is a medicinal agent employed to aid the expulsion of gas from the alimentary tract.

450. What medicinal substances are used principally as carminatives?

Drugs known as aromatics which owe their virtues principally to the volatile oils that they contain, are used especially for this purpose. Other drugs containing volatile oils among the constituents are also used as carminatives. Asafetida may be mentioned as an example of this latter class

451. Name four official drugs, not volatile oils, that are used as carminatives.

Capsicum, cardamom seed, myristica and ginger.

452. What official liquid preparation represents the active principles of the drugs named in the answer to the preceding question?

Aromatic fluidextract. It is recommended as an addition to liquid medicines when the use of an aromatic is desired, and its concentrated form permits its employment in small quantities with dry powders, such as pepsin, bismuth subnitrate, etc.

453. What is the object of the prior maceration in making syrup of wild cherry?

The maceration of the drug is to permit the formation of free hydrocyanic acid by the breaking down of the amygdalin in the drug through the action of the ferment, emulsin, which is also present in the bark. Benzaldehyde, otherwise known as oil of bitter almond, is also formed.

454. Why should hot water not be used in preparing a mustard plaster?

The active ingredient of mustard plaster is the volatile oil of mustard which is developed in the ground mustard in the presence of water by the ferment, myrosin. Hot water destroys this ferment, and mustard so treated loses its rubefacient or counter-irritant properties.

455. What are enteric pills?

Pills coated with a substance insoluble in the dilute acid juices of the stomach, but soluble in the alkaline juices of the intestines.

456. What substances are employed for coating enteric pills?

Keratin and salol.

457. What is the difference between a mixture and a compound?

In a mixture the components exist side by side and can be separated by simple mechanical means. The ingredients may be present in any proportions, and the properties of the mixture are intermediate between those of the separate constituents. In a compound, the components cannot be separated by the simple means available in the case of mixtures The properties of the compound are quite different from those of the constituents, and constituents are always present in certain definite and invariable proportions.

458. What are four pharmacopoeial substances which may be called products of destructive distillation?

Tar, acetic acid, oil of cade, ammonia.

Dr. H. M. Whelpley, secretary of the Board of Trustees of the United States Pharmacopoeial Convention, St. Louis, announces that the new price of the United States Pharmacopoeia will be as fellows: Cloth $3.75 and buckram $4.00. This increase in price, Dr Whelpley states, just covers the additional cost of material and labor.

Women in Pharmacy

CONDUCTED BY EMMA GARY WALLACE

A SUCCESSFUL OWNER AND MANAGER

Mrs. L. A. Davis

One who has demonstrated her business ability as a registered pharmacist is Mrs. Luella A. Davis, of Shattuck, Okla., the owner and manager of the Davis Drug Company of that place and also, until recently, the owner and manager of the Davis Jewelry Company. Her husband died during the influenza epidemic about two years ago, and although she had been connected with the drug business for fifteen years, she never registered as a pharmacist until last April. When her husband died and it became necessary for her to take the helm, she was well prepared, but she found that she had to have a registered man in charge in order to conduct the store, a requirement that sometimes placed her at a disadvantage because of not being able to be fully in charge officially. This situation she determined to remedy, and immediately began a course of study with Mrs. Mary Wuester, of Wichita, Kansas, with the result that she had no difficulty in passing the required examinations.

Mrs. Davis has had her greatest difficulty in obtaining competent, honest help, but now that she is registered, she feels that she can be more independent. She enjoys prescription work most, but thoroughly likes the drug business in general. She goes to work at 9 o'clock and spends the rest of the day until evening at business. She divides her evenings so that part of these are spent at home with her family. She is the mother of three children, all boys, Robert, named after his father and now fourteen years of age; Ronald, eleven, and Riley, the baby of the family, who is seven. The late Mr. Davis was a 32° Mason, and Mrs. Davis is prominent in the Eastern Star. She drives her own car, and has just returned from a trip through Kansas and Oklahoma.

Success has come to Mrs. Davis in her business because she deserved it. There are two drug stores which serve the community and country surrounding Shattuck, and she has her share of the business. She states that as far as she can tell, there is no prejudice against a woman pharmacist, a statement that is well borne out by the reputation she has attained in the community she has served so well and intelligently.

St. Louis Chapter, No. 8, is singularly busy these days, getting ready for the meeting of the Convention in that city in September, a special program for the entertainment of women accompanying the delegates having already been planned. A recent meeting in the interests of the convention program was held at Bevo Mill, a most charming summer garden. Mrs. Zesch was chairman of Arrangements and saw to it that a delicious luncheon was served. After the luncheon, Mrs. Pauley called the meeting to order and a business session was conducted. Every member pledged to make the coming convention a complete and fruitful success. The rest of the evening was given over to cards and other games, with Mesdames Hoenig, Hoelscher, Krummenacher, and Lieberstein as hostesses.

AROUND THE CIRCUIT

The Women's Organization is sincerely mourning the death of Mrs. W. B. Cheatham, wife of W. B. Cheatham, President of the Associated Pharmacists, who passed away July 2d at her home in Yonkers, N. Y. Interment was made at Rock Island, Ill.

Mrs. Cheatham has been ill for some months, but her recovery was hoped for, and the end came as a great shock to her many friends. She was a member of the Fraternal Relations Committee of the W. O. N. A. R. D., and during late years has always been present at the N. A. R. D. conventions. Earnest sympathy is extended to Mr. Cheatham.

A convention call has been issued for the fifteenth annual convention of the W. O. N. A. R. D. which will meet in St. Louis, Mo., at the Planters' Hotel, Sept. 20th to 25th. It is expected that this will be the best convention ever held.

The sudden illness and death of Mr. Hellwig of Hellwig & Co., 8611 Hough ave., Cleveland, came as a shock and all but prostrated Mrs. Hellwig. Her friends in the Cleveland Chapter rallied loyally to her aid, and her sisters in the organization everywhere feel deeply for her in this hour of her grief.

Little six-year-old Thais V. Jennisch was burned to death on July 4 while playing with fire crackers in the rear of her home at 1720 Tenth street, Rock Island, Ill. The little girl and her brother John, eight years of age, were celebrating the glorious Fourth. The little boy discovered that they needed more matches, and not realizing that the edge of her skirt was on fire, he ran upstairs to the family living room, leaving his sister playing happily as he supposed. A moment later when he returned, he saw her jump from the rear stairs and start running along the alley with flames shooting up from her light garments.

His screams and those of little Thais, brought his mother who called the child to stop, but she panic-stricken and probably not hearing, ran out of the yard into a short alleyway and out into the street, headed for her father's store. A neighbor who stood in the doorway of his soft drink parlor, across the street, saw the child in flames and calling to the child to stop, ran after and overtook her in front of her father's drug store, but the fire had gained too much of a headway to be put out readily. When it was finally extinguished, the little girl was taken to the hospital where death came three hours later. The mother remained with the child until the last. As a result of the shock she collapsed and has been in a serious condition ever since.

Funeral services were conducted by the Rev. C. A. Slatt, and interment was made in Riverside Cemetery. Her parents and brother John are the only survivors. Most earnest sympathy is extended to them.

Congratulations are extended to Miss Mary Snyder, the W. O. scholar who recently graduated from the Queen City College of Pharmacy, and passed the Ohio State Board in January.

Wilmington Chapter, No. 12, held its first meeting of the season at the home of Mrs. Godfrey Hancock, 2708 Harrison St., with the new President, Mrs. D. I. McColley, in the chair. She made a brief three minute speech but into that time she packed a lot of good advice on how to make the year a resultful one for pharmacy, in Wilmington, in the state, and in the nation.

It was decided to send a check for $15 to the Child Welfare workers. Chapter delegates from the general Federation of Women's Clubs gave an interesting report on the sessions of the state meeting at Dover, Del. Mrs. Thompson Donaldson and Mrs. O. C. Draper were named as delegates to the St. Louis convention in September. The next meeting is scheduled for September at the home of Mrs. Mary Dallon-Thompson, of Hillcrest.

The newly elected officers of Cincinnati Chapter, No. 5, held the first meeting of the season at the Hotel Gibson. Delegates selected to attend the national convention were, Mrs. E. V. Weibold, Mrs. Caroline Wetterstroem, Mrs. Clara Otis. The alternates were Mrs. D. E. Murphy, Mrs. William Brittain, and Mrs. Otto E. Kistner.

The August meeting took the form of a picnic which was at the country home of Mrs. Woerner in Terrace Park, on August 11th. A delightful time was enjoyed.

Mrs. Nellie Bloadan-McElhaney, Chairman of the Publicity Committee of the Chapter, is preparing a series of club papers on Community Service. These she gives to Chapter 5 as a means of inspiration and help. She says in part:

> "The World War has left us some shoddy ideas as well as shoddy cloth. We need not discard our vague ideals, mostly war-born, but we must return to earth with its details of small service and little kindnesses. Dear members and chapters, please let us consider the club ideas as one means of one phase of service.
>
> "In terms of Community Service, we now are ready to consider group organization from one of these two view points, namely, the action of the group idea on the individual as such, and also, the projection of the individual into the group. Knowing the purport of this article, it is most logical that we first deal with the action of the group, on the individual in the group. What value is the small group?
>
> "Why is chapter attendance beneficial to the individual member?
>
> "The group is a means to an end for a value of the small club. The club is a large social value. Judge for yourself the means offered by such an organization:
>
> 1. Allowing self-expression.
> 2. Enjoying social features—always a very normal factor.
> 3. Showing the desire and need to serve.
> 4. Broadening, you come out of any group-contact plus what you took into it.
> 5. Developing consciousness of power.
> 6. Developing loyalty.
> 7. Drawing out some latent talent.
> 8. Developing leadership.
> 9. Destroying spirit of rivalry.
> 10. Promoting team-work.
> 11. Having judgment of one's peers.
> 12. Reweaving ties of normal life for those finding life complex.
> 13. Making avenues of service.
> 14. Projecting larger issues beyond group.
> 15. Establishing standards.
> 16. Developing concentration (individuals must have it to develop even one degree of efficiency.)
> 17. Improving manners.
> 18. Engendering true courtesy.
> 19. Acquiring a tolerance for others' views.
> 20. Affording an outlook.
> 21. Developing organizers having constructive ability and an appreciation for logic and sequence. Members must know what is going to happen twenty meetings ahead, in order to get the proportion of other meetings.
> 22. Affording practice in business procedure in mass.
> 23. Developing officers. Officers are neither leaders nor organizers. It is a poor chairman that works ahead of the committee.
> 24. Developing a financial sense.
> 25. Developing and directing enthusiasm.
> 26. Forgetting self.
>
> "Before considering the projection of the individual into the group, it will be well to study, next time, some necessary qualities in leadership, also a few efficiency points in the science of Community Service."

Rock Island Chapter was entertained by Mrs. A. J. Riess at her summer camp near Watch Tower, in lieu of the regular midsummer meeting. The outing proved most enjoyable and a large company of members was present. There was a business session and delegates were named for the St. Louis convention. Five dollars was voted to go to the National Scholarship Fund of the W. O. N. A. R. D.

Following the disposition of business, card games were played. An out of town guest, a former member of the Chapter, was Mrs. Oscar Oberg of Chicago. It was voted to hold the August meeting at Prospect Park, Moline, and again to have it in the form of a picnic outing.

Over twenty-five members and guests faced the new President, Mrs. Harry J. Borst, of Indianapolis Chapter, No. 20, when she opened the first meeting under her administration in the Palmer House, Calver, Ind., at the time of the meeting of the Indianapolis Pharmaceutical Association. The year's reports were given and a few subjects of immediate importance were considered. As was hoped and expected, several new members were enrolled.

In the afternoon, the Chapter gave a card party and in the evening they had charge of a carnival dance given for everyone attending the convention. Mrs. Borst was honored by being given a place on the regular program of the Indianapolis Association program and was enthusiastically applauded. It was decided to have a summer card party, to raise money, but to have no more regular Chapter meetings until October.

Word has come that Edward Heckler, of Cleveland, is very ill. Mr. Heckler is one of the prominent pharmacists of that city, having succeeded his father in the well-known Heckler Store. Mrs. Heckler has been one of the most enthusiastic workers in the Cleveland Chapter, and earnest hopes are entertained that Mr. Heckler may enjoy a speedy recovery.

A rather unusual outing is being enjoyed by the C. M. Jelinek family of Chicago. Mr. Jelinek, who is proprietor of the Clifton Park Pharmacy, took his wife, three children, and the family Stutz to Indianapolis, Detroit, Toledo, Washington, and New York. At this point the car was shipped to Havre, France, where the Jelineks were met by a brother of C. M. who also had his machine. Together the party are touring Europe. They take in Prague in Czecho-Slovakia, Mr. Jelinek's former home. The family plan to get back to the U. S. about October 1.

Among the honor students of the University of Illinois College of Pharmacy, are Miss Dina Margaret Froiland of Westby, Wis., and Miss Norma Claire Schulte of Chicago. Miss Schulte is the daughter of H. J. Schulte, an enthusiastic C. R. D. A. man. Miss Froiland has been employed in the dispensary of the Luthern Deaconess Hospital which is in charge of Mrs. Amanda Stahl Druehl.

Among the families enjoying splendid motoring trips this summer are the Lee Pedigos of Chicago, who are touring to the Pacific Coast, taking in such points of interest as Cody, Wyoming, the Shoshone Canyon trail to Yellowstone Park, Butte, Montana, the Fruit Belt near Missoula, the forest fire region of St. Regis, Spokane, Wash., and everything else worth-while enroute.

Mrs. Joseph Forbrich is enjoying an extended visit with her mother in Los Angeles, Cal.

A most interesting interview is reported with Mrs. Nellie Florence Lee concerning the conduct of her drug store in Philadelphia, by Mrs. Helen Pitkin Schertz, in the *Modern Druggist*. Mrs. Lee, as always, makes some telling points. She says,—

"A drug store with a woman's presence, is as noticeable as a home with a woman present. The woman clerk gives the store a homey touch. The woman customer always has a pleasant word for the woman clerk, and often likes to engage her attention for a few minutes and thereby more purchases are made."

Executives and Representatives of Sharp & Dohme

SHARP AND DOHME.

The representatives of Sharp & Dohme visited the laboratories of the company in Baltimore recently and the photographer got busy. Here is a picture of some of the executives and representatives taken on that occasion. Reading from left to right, they are as follows: Sitting—J. C. Roberts, superintendent of laboratories; P. E. Herman, district manager for Ohio River Valley; Dr. M. C. Cornell, district manager for Texas; J. J. Prior, manager of the company's Atlanta house; Dr. A. R. L. Dohme, president; Wm. S. Sailer, general manager; W. W. Curtis, manager of the company's New Orleans house; E. P. Ferguson, district manager New York State; C. E. Matthews, manager of the company's Chicago house. Standing—W. T. Proehl, general representative Chicago and Northwest; H. J. Brady, Virginia; T. M. Macbeth, Tennessee; J. L. Taylor, North Carolina; J. D. Heidtman, South Carolina; J. S. Perkins, Alabama; H. B. Croxson, Louisiana; C. C. Tunison, Georgia; D. E. Nickles, Washington and Baltimore; H. D. Plaster, Buffalo; H. K. Mundorf, Central New York; Guy M. Smith, Central Ohio.

CASTORIA TRADE-MARK UPHELD IN CANADA

Montreal, Canada.—Judge Duclos, of the Superior Court, Montreal, a few weeks ago, granted an injunction to prevent the American Druggists' Syndicate, Inc., selling certain of their products known by the name "Castoria." The action was instituted by the Centaur Co. which for more than 30 years has manufactured Fletcher's Castoria and claims that the respondent company in offering an article by the same name infringed upon their rights. They filed affidavits to show that for years they had spent a yearly sum of $20,000 to advertise their product in Canada alone.

In giving judgment, maintaining the petition of the Centaur Co. Judge Duclos said "Castoria" was patented in the United States for a number of years and when this patent expired anyone was free to manufacture or sell it there. Such was not the case in Canada where the Centaur Co. had simply registered the word "Castoria" as a trade-mark. The respondent had or was intending to infringe upon this trade-mark; the name "Castoria" was purely a fancy one and in no way descriptive of the article. The word had acquired a secondary meaning identifying the article sold under that name as the manufacture of the petitioners, and no one could sell or offer for sale a senna laxative under the name "Castoria" without misleading the public into the belief that they were selling the petitioners' goods. The article sold or intended to be sold by respondents while very similar, was not the same as manufactured by petitioner.

LIGGETT'S INTERNATIONAL, LTD.

Bankers of New York are offering $7,500,000 of 8 per cent cumulative preferred stock of Liggett's International, Ltd., at par, or $50 a share, to yield 8 per cent, this stock being part of an authorized issue of $35,000,000. The Liggett's International, Ltd,. it is announced, owns all the common stock of the Boot's Pure Drug Company, Ltd., of England, which last year did a gross business of more than $35,000,000 in its 632 drug stores. Liggett's International also controls the British and Canadian business of the United Drug Company operating through 31 of its own stores and 1828 stockholder agents. It is also announced that application will be made to list this stock on the New York and Boston Stock Exchanges and interchangeable certificates will be issued, negotiable in either city.

LEHN & FINK IN NEW HOME

Officers and employees of Lehn & Fink, Inc., smilingly faced the camera man on the roof of the firm's new home. Note the handsome floral piece presented to Joseph Plaut by the employees

With all modern devices for the speedy and accurate handling of orders Lehn & Fink, wholesale druggists and manufacturing chemists, is rapidly getting to rights in its new home at Greenwich and Morton sts., New York. The new building is a modern structure of steel and stone, seven stories high and of fireproof construction.

The building is equipped with a thorough system of electric conveyors and trucks, automatic telephones and pneumatic tubes and these are so arranged that orders may be assembled and shipped in the shortest possible time and at the same time be as free from errors as mechanical ingenuity and constant checking can make them. The system of conveyors starts at the seventh floor on which are located the clerical offices and runs through the various floors to the street level where it terminates in the shipping room.

The stock rooms are so arranged that the present stock may find floor space and yet each unit may be expanded without crowding some other off the floor. This is particularly noticeable in the oils, which are housed in automatic containers instead of casks. These containers automatically measure the amount taken out.

The firm is justly proud of the record it made in moving its stock from its old home at 120 William street to the new building. Closing business on Friday noon, it was ready to ship orders from the new place by Monday morning. But this does not tell the story. Actually only 35 hours were consumed in moving and getting to rights. This is considered a record.

With the better facilities afforded by the new executive offices, warehouse and shipping department and the modern, twenty-acre plant recently acquired in Bloomfield, N. J., Lehn & Fink is now in an advantageous position to fill all orders promptly and to ship them expeditiously. The makers of Pebeco tooth paste and Lysol disinfectant believe they have provided sufficient room to meet the great growth which their business has enjoyed in recent years and to take care of the normal growth they expect during the next few years.

NINE MILLION RAZORS IN A FEW YEARS

The Durham Duplex Razor Co., razor manufacturers, Jersey City, N. J., state that not one of the hundreds of jobbers who have sold hundreds of thousands dollars worth of Durham Duplex Razors and millions and millions of Durham Duplex Blades in the ten years they have been in business has ever sent them a statement of a single customer that the Durham was not giving perfect satisfaction. This is an unprecedented record of service, and one to which they are calling the attention of the trade in a recent circular. The experience of the shaving men of the world has proved that the Duplex, shaped and constructed so as to compel the user to attack the hair with the proper diagonal stroke, while the safe feature was evolved when the manufacturers developed an interchangeable blade having a double edge, thus making it possible to shave with either hand. That the manufacturers have produced a razor satisfactory to nine million users is convincing evidence of its superiority.

The manufacturers also state that the records of increased sales of Durham Duplex razors and blades prove conclusively that the growth of the Durham would have been impossible without the loyalty, spirit and confidence of the jobbers and jobbers' salesmen, who have been their sales force in war and peace. This is the reason no excessive stocks of Durham Razors were dumped on the market when the war stopped; in fact, there were no stocks except those the jobbers had on hand. This is also the reason why jobbers were able to sell last year the number of razors they did and on which they enjoyed full profit.

With a combination like this: a satisfied selling force, larger than any other razor company has in the field; jobbers who are satisfied and willing to assist, and jobbers' salesmen who are real Durham Duplex enthusiasts; and an article which gives one hundred per cent satisfaction and has behind it advertising costing the company hundreds of thousands of dollars, it is certain a million of Durham razors will be sold between now and Christmas. This is the mark the company have set and they are satisfied the dealers will help them reach it.

STORY OF SMALLPOX VACCINE

The opening of schools gives rise each year to increased vaccination against smallpox during August and September, since practically all schools in this country now require that the students be vaccinated.

Very timely, therefore, is the booklet "Smallpox Vaccine," which has just been issued by the Mulford Laboratories. It tells of the introduction of smallpox into this country, of the discovery of vaccination, of the gradual development and improvement of the product, and, finally, describes the very latest present day methods of propagating and handling glycerinized vaccine virus.

The booklet is profusely illustrated with half-tone pictures showing various steps in the process. Incidentally the booklet is an unusually fine example of the printer's art. All persons interested in learning more about Smallpox Vaccine, one of the oldest and most important Biological Products, will do well to write to H. K. Mulford Company, Philadelphia, Pa., and ask for a copy of this booklet.

RED BAND ASPIRIN BREAKS ALL RECORDS

The month of July, according to the manufacturers, was a record breaker for S. K. & F. Aspirin showing a gain of 300% over last year. The great part of this gain came in the "Tin Box 12's," which is, they claim, conclusive evidence that this attractive package with the red band has gained the friendship of the trade and consumer alike. The 8's also show a large increase in the southern and eastern states, and indeed the success of the whole line proves conclusively that the retailer is glad to handle the "Aspirin that pays."

A NEW THERMOMETER, THE THERMO-VANE

One of the latest novelties to be placed on the market by the Schaeffer & Budenberg Manufacturing Company of Brooklyn, N. Y., is the Thermo-Vane, a decidedly handsome thermometer, equally suitable for the home, the office, the sick chamber or the living room. The Thermo-Vane is the result of five years of experiments and the makers say they believe it is as accurate and dependable an instrument as it is possible to manufacture.

There are several models of the Thermo-Vane. Each model has been designed with due regard for beauty as well as utility and the result speaks well for the thought that has been put into the designs. The largest model has a base of six and a half by three inches with a height of three inches. The smallest model has a base of four by four inches and a height of four inches. The finishes are in art metal, colonial brass, old brass, old ivory, silver and gold.

While the designs of the different models are varied, all are surmounted by a convex brass dial which is two inches in diameter. The degrees are marked on the dial in large, easily read numerals. The temperature is indicated by a flag, which rotates on a slender rod. Dial and flag are inclosed in a glass case of hemispherical shape. The Thermo-Vane is so delicately adjusted, it is said, that breathing on the glass will cause the flag to flutter.

BAYER'S FRIENDLY TIP

Because countless thousands insist on seeing the "Bayer Cross" many druggists now sell only "Bayer Tablets of Aspirin." Bayer suggests that the best way to meet popular demand and at the same time enjoy greater profits is to get in double quantity orders at once. Bayer guarantees the coming season to be the biggest ever known and promises that the call will be for genuine Aspirin, introduced to physicians twenty years ago and proved safe by millions—genuine "Bayer Tablets of Aspirin."

The Bayer Company has established a reputation for making good every promise made. They are to put a million dollars worth of red-blooded advertising behind "Bayer Tablets of Aspirin" in the season to come. In September their advertising in both newspapers and magazines will be tremendously increased.

Druggists will be pleased with the handsome new window display in colors which will be sent without cost to those who write to The Bayer Company, Inc., 117 Hudson Street, New York.

A DIRECT MAIL CAMPAIGN NOW ON

The Hand Medicine Company of Philadelphia is doing considerable direct mail work among the retail drug trade to make them better acquainted with Dr. Hand's Remedies for Children. This old established line of baby medicines has been on the market for more than thirty years, and has shown a steady increase in sales, probably owing to that best of all advertising, recommendations from satisfied customers. One mother has told another that Dr. Hand s Remedies have benefited her children. These remedies contain no narcotic drugs and are absolutely safe. Through this direct mail campaign, many druggists are beginning to realize more fully the advantage of handling a line of remedies on which there is no chance of a "come back."

QUICK! ORDER "DIAMOND DYES"

The Dealer's Order Blank in each carton holding a dozen packages of "Diamond Dyes" makes it easy for you to fill out and send to your wholesaler immediately. With each twelve dozen order you get 5% discount and a dozen packages free. The word has gone out: "Don't wait! You'll need all the 'Diamond Dyes" you can get because there never has been so much money spent in advertising dyes as the three-quarters of a million dollars which Wells-Richardson guarantee will surely double or treble your former sales of 'Diamond Dyes.'" The campaign is now on and dealers are urged to order plenty of blues, blacks and browns and not to be caught short during the biggest "Diamond Dyes" season ever known. "Use that Dealer's Order Blank now and share in the bigger profits that the free goods give you," is good Wells-Richardson advice.

NO CHEAP HYDROGEN PEROXIDE THIS

Gradually, but with unquestionable certainty, it is becoming apparent to critical pharmacists who dispense Hydrogen Peroxide, and physicians who prescribe it for their patients, that there is no economy or advantage in using the so-called "cheap peroxide" offered by department stores and on bargain counters.

The Mallinckrodt Chemical Works have never claimed to supply cheap peroxide, but are applying the results of their fifty years' experience in chemical manufacturing to the end of supplying the best product that can be made, at a reasonable price. The Mallinckrodt brand has for years been the standard and is today the Peroxide with which all others are compared.

FOR EXAMINING DRUGS ON WHARVES

The United States Civil Service Commission announces an open competitive examination for wharf examiners (food and drugs) on Sept. 22, the examination to be held at various places throughout the United States as named by the Commission. Vacancies under the Bureau of Chemistry, Department of Agriculture, at $1,600 a year, for duty at New York, San Francisco, Seattle, and other places as the needs of the service require, and vacancies in positions requiring similar qualifications at this or higher or lower salaries, will be filled from this examination. Appointees whose services are satisfactory may be allowed the increase granted by Congress of $20 a month.

E. G. Murphey, druggist at Las Vegas, N. M., for more than thirty years, and one of the organizers and for more than three decades a member of the New Mexico Board of Pharmacy, died recently at St. Anthony's Sanitarium, East Las Vegas, following an operation for gall stones. He was born at Uniontown, Pa., August 16, 1857. In making the announcement, Secretary W. H. Duckworth of the board of pharmacy states that in the death of Mr. Murphey, New Mexico has lost one of her leading citizens and her most prominent druggist. For many years Mr. Murphey served as president of the board.

Profitable Opportunity For Druggists

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Chestnut
Light-Chestnut
Blond

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ESTABLISHED 1887

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Drug Gardens and Colleges

Comment made in these columns recently was to the effect that the evidence furnished by the catalogues and circulars of information issued by colleges of pharmacy relative to instruction in commercial pharmacy tended to show that these institutions were in touch with the present-day tendency and needs of pharmacy as a business. But this is but a part of the effort colleges are making to prepare pharmacists for future work. The more one studies these catalogues and compares them with similar literature issued by the colleges a decade or more ago, the more obvious it becomes that schools of pharmacy like all other teaching institutions are passing through a transition period. This is particularly emphasized by reference to the adoption of new methods, outlines of new subjects and general rearrangement of many of the courses, all of such institutions apparently looking forward to the preparation of students who are to make their way in the general reconstruction which must come as a result of the world war.

In the college catalogues coming to hand, considerable space is given to the drug garden, which now has a place in the teaching equipment of most of the institutions. Further, emphasis is given to the drug garden as a help to study and one of the means which is to be utilized to develop an American medicinal plant industry. Here again the colleges of pharmacy appear to have caught the real spirit of progress in taking up a work which is designed to help relieve our material needs in the matter of botanical drugs, and at the same time, will place before the student an object of the highest educational value. Experience goes far to demonstrate that all pharmacy students feel a personal interest in such gardens, for instruction in such a department gives them a knowledge they can utilize in their future work, and furnishes an inspiration which tends to make them better pharmacists and better citizens.

A quarter of a century or more ago, the chief purpose of the college was to prepare its matriculants for the intelligent practice of pharmacy, mainly as such was needed in the retail drug store. This purpose still exists, but the average college catalogue of to-day shows that there has been a general broadening out in the scope of instruction, for many institutions now offer courses which lead to specialization in fields which possibly are not directly connected with the retail drug business, yet are still closely related and are a part of pharmacy.

Limitation of Pharmacies

The opinion has been occasionally expressed within the last few years that there were too many drug stores in this country, and that if a certain proportion of them were closed entirely, there would be less harmful competition, and better financial returns would come to those who would remain and practice "real" pharmacy. Instead of being compelled to deal in lines far removed from the drug business, as many druggists are now required to do, the pharmacist would confine his energies to professional and scientific matters entirely, and thus put himself more nearly on a plane with the physician, a position the latter is not willing to admit under present conditions. As some of these opinionated observers profess to believe, the limitation of the number of pharmacies constitutes the only efficacious means of obviating existing abuses in the drug trade.

For some time past there have been frequent references in French and Belgian pharmaceutical journals to this very question, the subject having been brought forward, among others, in the return of Alsace-Lorraine to France as one of the results of the World War. Previous to the armistice, these provinces were under German control, the laws of that country having a provision which restricted the number of pharmacies that might be operated on the basis of the population to be served. In France there is no governmental regulation as to the number of pharmacies.

That the provincial regulation is deemed generally satisfactory would appear from an address delivered a short time ago by Prof. Jadin at the opening of the school of pharmacy of the University of Strasbourg. In complimenting the members of the pharmaceutical profession of the redeemed provinces on their scientific attainments, he declared that this satisfactory state of affairs was wholly due to the laws regulating the profession. Further, as he saw it, the condition of pharmacists in countries where the number of stores was not limited was very unsatisfactory, commercial competition too often absorbing the attention of the pharmacist to the extent that the rules of ethics were no longer respected as they should be. In his opinion, pharmacy in France was suffering greatly from the liberty it enjoys.

At the present time there is a movement going on among French pharmacists to provide a better re-allotment of pharmacies than that which now obtains, the effort being made forecasting a regulation which will be based upon the regional distribution of stores now open or which are to be established. It has been proposed that the authorization for establishing a pharmacy should only be granted after an investigation in which consideration should be given to the demands of the public, the conditions of opportunity, distance to the nearest pharmacy, etc. In allocating the pharmacies, provision should be made for the needs of rural communities which are not always comparable to the needs of an urban population. Summarized, a consensus of various opinions expressed in France seems to favor a regulation which will limit and distribute the number and class of pharmacies on the basis of density of population, the richness of the region and local requirements. Such a regulation is foreign to the custom and legislative policy of this country, but much can be said in favor of limiting the number of drug stores. No one expects that such a law will ever be enacted in the United States.

Government Monopoly of Narcotics

Stating that the clinics for the treatment of drugs addicts in New York, New Orleans, Los Angeles and San Diego have been a failure, Dr. L. L. Stanley, resident physician of the California State Prison at San Quentin, recommends in a report prepared for the American Institute of Criminal Law and Criminology, a Government monopoly of the manufacture of narcotics as a solution of the evil of drug addiction. As long as morphine, heroin and cocaine are distributed through 50,000 retail druggists all over the country and about double this number of physicians can write prescriptions almost at will, a Government monopoly of manufacture cannot be effective in stamping out the drug evil. The fault lies not with the manufacture or manufacturer at the present time, but with the method of distribution insomuch as responsibility for prescribing and dispensing is in the hands of a hundred thousand people or more, with the usual quota of dishonest ones.

Instead of a Government monopoly of manufacture of narcotics, a monopoly of distribution would come nearer to solving the problem. The fault lies not with the manufacturer but with the system after the goods leave the factory. Little is stolen from manufacturers and none goes directly from their hands into illicit channels. The greater part of the illegal distribution comes after the goods have passed through the wholesalers' hands into the custody of the retailer. As a remedy, central narcotic stations have been recommended, to be conducted by the Federal Internal Revenue authorities, which would be supplied direct by the manufacturers. The wholesale drug houses and the retailer would thus be eliminated from the narcotic business altogether, much to the oft expressed gratification of representatives of both groups. Kicks would emanate chiefly from dishonest sources.

Enough of Government ownership or operation! Strict Government supervision—yes! The present arrangements for the production of narcotic alkaloids are too highly specialized and too extremely technical to be taken over and subjected to a constant battering of political tides. The reputation and integrity of every American manufacturer of narcotics is of the finest and the Government can count on them for co-operation to the limit. But, Government operation of the plants is another matter, which as we look back upon the war-time railroad debauch and the present shipping-board inefficiency, is not such as would recommend itself to thoughtful people.

Safeguarding the Ripe Olive

California Passes Laws Regulating the Pickling and Canning of Olives —The Business, Founded by a Woman, Grows to Large Proportions

By T. A. CHURCH, Berkeley, Cal.

AIDED by a Government investigation, following several fatal poisoning cases last winter; a strict supervision of packing by the State, and a national advertising campaign, California ripe olives have come back into their own with a rush and a big demand is noted for the new pack, although this will not be ready for distribution until next January. Through the efforts of the board of investigation the causes of the poisoning were definitely located and the State of California has taken steps to see that the packing of this fruit is carried on in the future in such a manner that all danger is eliminated. In order to properly reach the public and re-assure consumers of the wholesomeness of California ripe olives, growers and packers have agreed to levy an assessment to raise a fund for an advertising campaign, this being based upon the tonnage grown and packed.

Since the ripe olive became a factor in the food business almost two hundred million containers have been packed and sold, but no trouble was experienced until last season. Several deaths were then reported from the East and large quantities of olives and olive products were withdrawn from sale and destroyed and a most painstaking investigation inaugurated. The Board of Investigation consisted of Major J. C. Geiger, of the United States Public Health Service; Dr. E. C. Dickson, assistant professor of medicine, Leland Stanford Jr., Medical School, and Karl F. Meyer, associate professor of tropical medicine, University of California Medical School. At the same time Dr. W. V. Cruess, assistant professor of zymology, University of California, carried on investigations from a commercial standpoint, regarding the effects of various methods of sterilization of ripe olives.

Not Properly Sterilized

In effect, their report was that with the rapid growth of the olive packing business lax methods had been allowed to creep in and that in many cases proper sterilization had not been practiced, particularly in regard to the packing of ripe olives in glass, and to such products as olive paste.

They found that ripe olive poisoning is due to botulism resulting from contamination of the olives with bacillus voltulinus. This bacillus has been found in refuse around olive packing plants and is a spore bearing organism capable of resisting boiling temperature for five hours. It has been clearly demonstrated that it is killed by sterilization at 240° for forty minutes under all conditions of cooking ripe olives.

Acting upon the report of these investigators the California State Board of Health has issued a set of regulations governing the packing of this fruit and announces that it will deem adulterated within meaning of the State pure food act, all

An Olive Orchard in Shasta County, Northern California

Mrs. Freda Ehmann in her olive factory at Oroville, Cal.

ripe olives not picked and packed within strict conformity with the food sanitation act and that this will be held as applying to all holding solutions, tanks, separating trays and the premises of pickling plants generally. It will also consider as adulterated all ripe olives that have not been subjected to a sterilization of a temperature of at least 240° F., for a period of not less than forty minutes. Olives not packed under these conditions will be seized and destroyed.

Prof. M. E. Jaffa, of the University of California, and one of the world's recognized experts on nutrition, declares that despite the unfortunate occurrence of last year the ripe olive can be eaten with less danger than almost any other canned food product. He holds that its nutritive value is many times greater than the imported olive, which is pickled green and which is merely a relish, not a real food.

Founded by a Woman

The California ripe olive industry is not without its romance, and, as is frequently the case with huge enterprises, its early success was due to the untiring efforts of a woman. Its origin is wrapped up in the story of Mrs. Freda Ehmann who found herself confronted by poverty when nearing the age of sixty years and who not only established the business, but developed it to a high degree of perfection and continues to be its leader twenty years later.

Mrs. Ehmann was left a widow in 1892 and went to California to make her home, a few years later coming into possession of a small tract of land near Marysville on which was an olive orchard. Financial cares weighed heavily upon her and when her son suggested that she pickle some of the olives when the trees came into bearing, she conferred with a University professor and secured a recipe for pickling ripe olives.

The first pickling vats, made of wine casks cut in two, were placed on the back porch of her home, and here was the commencement of the ripe olive business in California. The first lot found a ready sale locally and the next year Mrs. Ehmann visited the large cities of the East and returned home with orders for fifteen thousand gallons. The product of other orchards was purchased, a pickling plant at Oroville taken over, and the business grew by leaps and bounds. The Ehmann Olive Company now operates the largest olive factory in the world at Oroville, Cal., north of San Francisco, and owns large orchards which supply it with most of its fruit. Mrs. Ehmann still gives her personal attention to the business and is still regarded as being one of the foremost experts on the pickling of ripe olives.

At present there are more than forty thousand acres of olives in bearing in California. The choice fruit for pickling is grown in Northern and Central California, the packers in the southern part of the State securing much of their supply from the northern orchards. There are forty-two olive packing plants and the annual output is valued at about $5,000,000.

Olives are grown largely in the foothill sections on land usually not suitable for other orchard crops. It requires from five to seven years for trees to come into bearing, but after the first crop they continue to bear indefinitely, as is shown by the wonderful orchards in the Holy Land. In California there are trees planted by the Mission Fathers a century and a half ago that are bearing profusely.

Every case of olives from the plants in which botulinus was found last season has been searched out from the retail and wholesale grocery trade. The new pack will be made under conditions of cleanliness such as prevail in no other branch of the food packing industry and under regulations not found in any other.

Do Emergency Stations Pay?

Every pharmacist is vitally interested in making a commercial success of his business, no matter whether he confines himself strictly to the sale of pharmaceutical preparations or extends his selling activities so they take in the many lines which custom has made it usual for a druggist to handle. Every druggist, at some time in his professional career, has seen his store used as an emergency station for the treatment of an unfortunate victim of a street accident. "Drug Trade Weekly," one of the Era's sister publications, has raised the question as to whether such treatment results in loss or gain for the druggist. Beginning next week, it will present each week, for a time, views of pharmacists in widely separated parts of the country as to their own experiences.

Why the victim of an accident should be hustled into a drug store is a nice question in psychology. Perhaps the coming series of articles in "Drug Trade Weekly," taken as they will be from actual experiences, will shed some light on this interesting question.

New Tests for Some Purgative Drugs*

By E. H. GRANT, Cincinnati, Ohio

This paper describes some new tests for the identification of the following purgative drugs listed in the United States Pharmacopoeia IX and National Formulary IV: Scammony Root, Jalap, Gamboge, Podophyllum, Senna, Rhubarb, Cassia Fistula, Chionanthus. The arrangement of these drugs in this paper is for convenience in describing the various tests, bringing similar ones together, rather than by a botanical or other systematic scheme. The reader is referred to the above mentioned authorities for a full description of the drugs.

Scammony

The sample, after being dealcoholized by evaporation if it contains alcohol, is extracted with chloroform. The chloroform extract is evaporated in a small beaker, and after cooling, the residue is treated with 2 mils of a cold alcoholic solution of potassium hydroxide (40 grams per liter). In the presence of scammony a pleasant, fruity odor slowly develops. On heating, the odor is intensified slightly and often changes to one resembling that of peppermint. In the cold, leptandra gives a faint, scarcely noticeable odor which can be easily distinguished from that given by scammony if samples of each are run for comparison. On heating, the odor given by leptandra is very rapidly intensified. For this reason, care must be taken not to add the potassium hydroxide solution until the beaker is cold. Jalap is slightly soluble in chloroform in the presence of alcohol and will give a slight odor in this test if alcohol is not excluded. Mexican scammony (*Ipomoea orizabensis* Ledanois) acts similarly to scammony, but the two odors may be distinguished if compared with those given by authentic samples of each of the drugs.

Jalap

The sample, freed from alcohol, is extracted with chloroform, as noted above, until all of the scammony is removed. It is then extracted with ethyl acetate, the solvent is drawn off and evaporated. The residue on evaporation is allowed to cool and is then treated with 2 mils of the potassium hydroxide solution. In the cold, very little odor develops, but on heating slightly there is a strong, ethereal odor, very similar to that given by leptandra.

Leptandra

The sample is extracted with a mixture of alcohol (1 part) and chloroform (3 parts). A portion of this extract is evaporated and the residue treated with alcoholic potassium hydroxide. In the cold, only a very faint odor develops. On heating slightly a strong, fruity odor develops. The solution is heated a few minutes on the water bath to saponify the resins, then diluted with water, acidified with dilute hydrochloric acid and extracted with chloroform. This extract is evaporated, and the residue when cold is treated with saturated potassium permanganate solution. An odor of benzaldehyde develops. This test depends on the cinnamic acid derivatives 3:4 dimethoxycinnamic acid and *p*-methoxycinnamic acid.† It cannot be used to identify leptandra when present as the eclectic concentration "leptandrin" or similar preparations, since these acids are washed away during the process of manufacturing the concentration.

As jalap is only very slightly soluble in chloroform-alcohol mixture and leptandra only slightly so in chloroform, the three drugs above mentioned can be differentiated with care.

Gamboge

This drug is characterized by its intense yellow color, soluble in most of the organic solvents.

Four mils of an ether extract of the sample are shaken with 12 mils of water and 0.5 mils of a 0.5 per cent copper acetate solution. If gamboge is present, a brownish orange to blood red color is produced in the ether.

By the use of the above tests and the usual tests for aloes and calomel, it is possible to identify aloes, scammony, jalap, gamboge and calomel all in the same three compound cathartic pills U. S. P.

Podophyllum

The sample is extracted with chloroform, a portion of this extract is evaporated and the residue taken up in 2 mils of glacial acetic acid. A small crystal of mercuric nitrate is added. A red orange to blood red color is produced in the presence of podophyllum. Sometimes aloes or wild cherry bark may give a scarcely perceptible change in color under these circumstances. If a drop of nitric acid or a small crystal of sodium nitrate is substituted for mercuric nitrate, podophyllum gives the same color as it does with mercuric nitrate, while sometimes aloes and wild cherry bark give strong colors, resembling that given by podophyllum. This test will detect 0.01 gram of podophyllum in the presence of 0.2 gram of aloes, and in the proven absence of aloes will give indications of the presence of smaller amounts of podophyllum.

After I had discovered this test, I came across a reference in the literature which I have since been unable to locate again, to the coloration given by podophylotoxin with nitrous acid in glacial acid, but no mention was made of aloes or wild cherry bark.

Senna and Rhubarb

Considerable work by numerous chemists has been done on the identification of drugs containing oxyanthraquinone derivatives. Senna is the most troublesome of these drugs to identify, on account of the slow chemical changes in these oxyanthraquinone derivatives which take place in its extracts on keeping, but all of these drugs show more or less change. The method of preparation, the menstruum used and the age of the extract all have profound influences on the depth and shade of color obtained in the various color reactions. A fresh, aqueous infusion of senna gives the Bornträger reaction only faintly or not at all. In attempting to identify senna when present as the whole or ground leaf, it is best to extract with dilute alcohol and apply the tests to this extract rather than to extract the sample with chloroform or ether direct, or to make an aqueous infusion.

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*Read before Scientific Section, A.Ph.A., Washington meeting, 1920, and reprinted from its Journal.

†Powers and Rogerson, Trans. Chem. Soc., 97, 1944-56, 1910.

The following test is given by senna, rhubarb, or rhapontic rhubarb (*Rheum raponticum* L.), but not by any of the other drugs. If the sample is in liquid form, it is acidified with dilute hydrochloric acid and enough alcohol or water is added to adjust the alcoholic content to about 20 per cent, and then the mixture is extracted with chloroform. If the sample is in solid form, it is acidified and extracted with a mixture of chloroform, 3 parts, and alcohol, 1 part. This extract is shaken in a glass stoppered cylinder with an equal volume of saturated bromine water. A few drops of ammonia water, slightly more than enough to combine with all of the bromine, are added and the mixture is again shaken. After effervescence from escaping nitrogen has ceased, the aqueous layer should separate out fairly colorless. If it has a strong pink tint, an insufficient amount of bromine was used and the test must be repeated. The cylinder is then allowed to stand undisturbed for an hour. In the presence of senna, rhubarb, or rhapontic rhubarb, a pink zone slowly forms in the liquid immediately over the chloroform and finally spreads through the aqueous layer. In the presence of frangula a slight, pink coating forms over the chloroform, but this color is insoluble in the aqueous solution. In the presence of the other drugs of this group, or of phenolphthalein, no pink coloration is formed, and even large amounts of these drugs or of frangula do not interfere with the detection of senna and rhubarb.

Since all of the color in this test is concentrated at first in a very narrow zone, thus showing off in contrast with the rest of the aqueous layer, foreign coloring matters do not interfere as much as they do with some of the other color tests for this group of drugs. The limit of sensitiveness of this reaction is about 20 milligrams of either rhubarb or senna, which is not quite as delicate as the Bornträger reaction. The presence of considerable alcohol is absolutely essential in the test.

Butternut Bark of Root and Cassia Fistula

Both of these drugs contain compounds which give red or pink colors in the Bornträger test. The coloring matter in butternut bark is too easily destroyed to be of appreciable value as an aid in identifying this drug. It is destroyed or rendered insoluble in the process of making a pilular extract of the drug, but it may sometimes be identified in liquid preparations which contain the fluidextract of butternut bark.

The sample is acidified and extracted with chloroform. This extract is shaken with a small amount of 10 per cent sodium acetate solution. The aqueous layer is brownish yellow in the presence of cassia fistula or the above mentioned coloring matter from butternut bark. The sodium acetate solution removes the coloring matter of these two drugs very completely from the chloroform and does not extract any of the oxyanthraquinone derivatives (emodin, etc.), which may be present at the same time. The purified chloroform extract can be used for the identification of drugs containing such derivatives (cascara sagrada, senna, etc.). A small amount of the brown coloring matters in cascara is removed in this process, so that the color reactions given by this drug after purification of the extract will be a clearer pink, with less of a brown tint, than in the ordinary way of making these tests.

Sodium acetate solution will remove not only the coloring matters from cassia fistula and butternut bark, but also a host of other natural coloring matters which would otherwise interfere with the Bornträger and other reactions. Whenever, in testing for emodin, the analyst gets a yellow color on shaking the chloroform extract with dilute ammonia, it would be well for him to purify the extract by shaking it with sodium acetate solution.

The sodium acetate solution containing the coloring matters from cassia fistula or butternut bark is removed, acidified and extracted with chloroform. Separate portions of this chloroform extract are removed and shaken with various alkaline solutions. Butternut bark gives a pink color with ammonia and brown with solutions of borax or sodium phosphate. Cassia fistula gives a more or less pink color according to the alkalinity of the solution. It gives a pink color in the aqueous layer if the chloroform is shaken with dilute solutions of ammonia, bleaching powder or borax, pink with a brownish tinge with sodium phosphate solution, very slight pink with sodium benzoate solution and yellow with sodium acetate solution. The chloroform in each case becomes colorless. Sodium chloride solution or distilled water alone do not extract any of the color from chloroform.

Chionanthus

The sample is extracted with chloroform. Separate portions of this extract are evaporated and treated with concentrated sulphuric acid containing the various chemicals noted.

Concentrated H_2SO_4 alone—red, developing only after a few minutes. On the addition of formaldehyde (40 per cent solution) to the above, the color is intensified and takes on more of a violet hue. The color with sulphuric acid and formaldehyde develops immediately and not after a short time, as with the acid alone.

$H_2SO_4+K_2Cr_2O_7$—violet, changing to brown.

H_2SO_4+Ammonium Vanadate—purple with red streaks, finally all purple.

$H_2SO_4+FeCl_3$ — reddish brown changing to purple.

H_2SO_4+Phenol—orange.

H_2SO_4+Alphanaphthol—cherry.

Fröhde's reagent—brown.

Summary

New tests are described for the identification of scammony root, jalap, leptandra, gamboge, podophyllum, senna, rhubarb, cassia fistula and chionanthus when present in galenical preparations. The tests for gamboge, podophyllum, senna, rhubarb and chionanthus are quite characteristic. The other tests while being far from conclusive are of value in assisting to identify the drugs.

Research Laboratory,
The Wm. S. Merrell Co., Cincinnati, O.

Warning Against Bubonic Plague

HEALTH Department officials have expressed the fear that unless immediate steps are taken to exterminate rats and other vermin, an epidemic of the bubonic plague will occur. A campaign was suggested by the United States Health Department some time ago, and it was then urged that every possible step be taken to warn the public of the necessity for rat extermination. The New York City Health Department recently published and distributed about 300,000 circulars carrying the text reproduced below, and also requested the fumigation with cyanide gas of all ships entering the Port of New York. The Health Department has also asked that all buildings within six hundred feet of wharves be made fire and rat proof.

The text of the circular issued by the Health Department is as follows:

**"ROUT THE RAT
SAVE MILLIONS FOR THE CITY OF
NEW YORK
KEEP OUT THE PLAGUE"**

"Starve the rat! Trap him! Gas him! Poison him!

"Keep all foods, grains, etc., which you may have on your premises in tightly closed metal receptacle with heavy, half inch wire mesh.

"Keep all garbage in tightly closed metal garbage cans. Starve the rat and he will leave your premises.

"Catch the rat dead or alive. Alive in heavy wire cage traps, or dead in heavy snap traps. Bait the traps with toasted bacon, cheese, or some material on which the rat has been feeding. Sprinkle a little oil of aniseed or rhodium around the trap.

"Tie the trap so that it cannot be overturned.

"See that no child can come near the snap trap.

"Do not use poison bait unless you can keep it away from children or animals. Best poison bait may be made as follows: Mix one pound barium carbonate in three pounds of flour, using just enough water to make a paste. Flavor it with a few drops of rhodium or aniseed. Break it up in small pieces and place it where the rat can reach it, but removed from children.

"Pour a little kerosene oil on the rat to kill any fleas on him.

"Fumigators using cyanide gas to exterminate rats and other vermin are licensed by the Department of Health, as this is a very dangerous gas.

"Keep the rat away from your house by concreting the cellar floor and walls, and lining or screening doors and other openings into cellar or lower story with half inch wire mesh.

"Clean your premises and remove everything that may harbor rats.

"Interest your neighbors in this work.

"By all means kill the rat and do your bit to prevent plague infection."

The Merchants' Association of this city recently participated in a conference at the City Department of Health upon measures to prevent an invasion of New York City by the dreaded scourge, which was duly reported in *Greater New York*, the publication of that organization, together with the following account of the plague in history, taken from the International Encyclopedia, which is reproduced herewith:

The Plague Scourge in History

Under Black Death is given the history of plague to and including the pandemic of 1334 to 1351, when China, India, Persia, Turkey, Russia, Germany, Italy, Greece, France, England and Norway were devastated and many millions of people died. Proust is authority for the statement that between the eleventh and fifteenth centuries at least thirty minor epidemics of the disease appeared in different parts of Europe.

A grave and important epidemic was traced from Syria to Marseilles in 1720, when 86,000 people fell victims to the plague in that city. During the epidemic of 1770-71, which probably passed from Jassy through Kiev, 80,000 persons died in Moscow alone. Early in the nineteenth century Constantinople became the seat of two severe epidemics, one in 1803, with 150,000 deaths, and the other in 1813, with 110,000 deaths.

The Balkan Peninsula was visited by the dread disease on several occasions between 1814 and 1841; Greece suffered in 1828, and the southern part of Italy in 1815. Russia, in the neighborhood of Astrakhan, was swept by an epidemic from 1877 to 1879. While Europe was passing through this period, Africa and Asia were suffering terribly. Kitasato reports twenty-one epidemics between 1783 and 1884 in Egypt.

Tripoli suffered in 1874 as did also Arabia. In the river valleys of the Tigris and the Euphrates outbreaks occurred in 1773, and several subsequently; and as lately as 1876, from which date it raged until 1895. The plague in Persia has been intermittent and of frequent occurrence; perhaps the epidemic of 1876-77 is most noteworthy, because it was the source of the Russian infection in 1877.

Endemic in India

In India the disease has been endemic for centuries, although reliable and accurate accounts date only from 1815. Its record since that date has been unbroken. Bombay has been a special sufferer since 1896. To trace or chronicle the course and outbreaks of the plague in China would be very difficult. The greatest visitation of the scourge, in 1342 and the following years, has been described. There were outbreaks of the disease in 1850, 1866, 1871, and 1872, and subsequently.

The latest pandemic of plague began in 1894 and encircled the globe. Beginning in south-central China, where it had been endemic for centuries, it spread by the tides of travel until it reached the United States. It first invaded Canton, Hongkong, Amoy, and Macao; thence it spread to Japan and Asiatic Turkey; thence to Russia, Austria, and Portugal, in Europe, and to a number of localities in Africa. In 1899 it reached Hawaii, New Caledonia, and the South American countries. Ten years later it appeared in Australia, New Zealand, the Philippines, Germany and Great Britain; California being infected by way of Hawaii. A few cases made their appearance in Porto Rico and Cuba. During this time the plague raged steadily in India, hundreds of thousands of people dying in some years. During 1912, forty-seven cases were reported in Porto Rico, with twenty-three deaths. From this time the disease was under control in the Western Hemisphere, and showed signs of waning in India and other eastern countries.

Cause of the Plague

Plague is caused by the presence of a specific microorganism, the Bacillus pestis, which was discovered independently by Kitasato and Yersin in 1894. It is a small rod, short and thick, with rounded ends that stain more readily than the central portion, showing the pole staining. The bacilli are found in pairs or singly, and in cultures, arranged in chains. They are encapsulated, aerobic, do not form spores, and are nonmotile. They occur in enormous numbers in the smaller glands (buboes), in the spleen, and, after death, in the blood. The unsanitary conditions under which the affected individuals live give ample opportunity for the direct or indirect transmission of the disease from patient to patient by fleas, flies, lice or other insects. The bacillus may enter the body by the skin surface, through cracks or wounds, by the respiratory passages, or by the alimentary canal. The infection is spread chiefly by rats through the medium of fleas.

The Portfolio and the Perfumes

(A True Story)

THE scene of our story is a capital in the Orient in the embassy of the third Republic. The Ambassador, his attachés, his chancellor were married to pretty ladies, who, in their turn played a truly diplomatic rôle. They had as their mission to shine, to receive, to arrange balls, to give to the society of the country and to the foreign colonies the highest idea of elegance, of good taste and of Parisian grace.

To facilitate their task, it had been agreed that—following a usage consistently observed by these gentlemen of the "Carriere"—they could on occasion use the diplomatic portfolio for the most urgent needs of their patriotic country.

As you may imagine, our charming "propagandists" made extensive use of this privilege. Not a week passed that some attaché did not arrive at X...., bringing under cover of international guaranties, the most varied neck adornments, the creations of the great dressmakers and the thousand and one follies of luxury.

Ill luck would have it that one day, one of the respectable trunks which was journeying to its destination—the Embassy, under the protecting aegis of the famous "portfolio"—opened and let its contents escape, in full view before witnesses. And the bystanders saw in place of dossiers and bundles of documents, a whole lot of perfumes of the best makers, many creams, lotions and boxes of rice powder.

These things happen, I assure you, every day, but it is preferable that they should remain in oblivion.

It appeared as a result, the quai d'Orsay was visited, they got angry and censured the unhappy attaché, victim of his polite gallantry!

Do you think the quai d'Orsay was wrong? The beauty and delicate charm of French womanhood, are they not, in the eyes of foreigners—and particularly of the Orientals—one of the elements of our own prestige, one of the florets of our crown?

These perfumes—whose subtle and highly artistic producers it is easy to guess, but I do not want to make use of advertising here—these powders, these essences with which feminine beauty veils itself and achieves its triumphs, were they not, themselves, in their well chosen place, also useful means of national development?

Truly, the diplomatic portfolio, which so often carried cigarettes and so many other mal-odorous perfumes, did not deserve on that day to be indicted! In the name of perfumes, those exquisite and impalpable auxiliaries of persuasion, of seduction—partakers of diplomacy—I protest!

But . . . since then, the ministry has changed . . . . the portfolio circulates all the time—and I am very certain that the courier of Venus, that the gallant attaché, is again . . . in the odor of sanctity!—(Translated from *Farmacia,* July, 1920)

ALOES OF SOKOTRA

Additional information regarding the island of Sokotra and the product which connects it most with pharmacy is contained in Hanbury's Pharmacographia. From this authority we learn that aloes was among the drugs recommended to Alfred the Great by the Patriarch of Jerusalem, one of the other remedies being petroleum. Hanbury quotes a legend recorded by the Arabian geographer Edresi, to the effect that when Alexander had conquered the King of Persia, and his fleets had vanquished the islands of India, he was advised by the philosopher Aristotle to seek the island that produces aloes. In due course, Alexander arrived at Sokotra and was favorably impressed by the fertility and climate of the isle. "From the advice which Aristotle gave him, he determined to remove the original inhabitants and to put Greeks in their place, enjoining the latter to preserve carefully the plant yielding aloes, on account of its utility, and because that without it certain sovereign remedies could not be compounded. He thought also that the trade in and use of this noble drug would be an advantage for all people."

Three hundred years ago the drug was traded direct from Sokotra to England, and, says Hanbury, in the records of the East India Company there are many notices of aloes being bought from the King of Sokotra, whose whole stock is frequently mentioned as having been purchased by the Company. As a "sovereign remedy," aloes is as popular today as in the time of Dioscorides, and it is believed that the virtues of the most famous proprietary pills in the world are due to their aloes content. In addition to selling this very unpleasant-tasting drug for medicinal purposes, most pharmacists are familiar with the occasional customer who purchases it for a disciplinary use, namely, to apply to the fingers of children who have acquired the unbeautiful habit of continually biting their finger nails!—(*Ind. and East. Drug.*)

Charles L. Parsons, secretary of the American Chemical Society, who attended the International Chemical Convention in Rome, says the production of German dyes and chemicals is rapidly increasing. Dr. Parsons visited Germany and Switzerland, and he believes that only a license system will be effective in keeping out the flood of products that are being shipped by these countries.

HISTORY OF CHOLERA IN NEW YORK CITY

One of the "war" diseases which seems most remote from this country, says the "Weekly Bulletin" of the New York City Department of Health, is Asiatic Cholera. Yet, since the nature of the malady and our previous history teach that we might, at any time, have the infection introduced from abroad, it behooves us to be on our guard. In commenting on this admonition, the "Bulletin" gives the figures showing the record of the different epidemics of this disease from its first appearance in New York in 1832, to and including its last appearance, in 1892. The figures are as follows:

Year	Deaths	Year	Deaths	Year	Deaths	Yr.	D'ths
1832....	3,513	1848....	3	1858....	5	1868....	9
1833....	0	1849....	5,071	1859....	9	1869....	6
1834....	971	1850....	57	1860....	18	1870....	1
1835-38 .	0	1851....	0	1861....	12	1871....	6
1839....	2	1852....	374	1862....	9	1872....	4
1840....	1	1853....	33	1863....	9	1873....	1
1841-43 .	0	1854....	2,509	1864....	12	1874....	2
1844....	15	1855....	19	1865....	10	1875-6 ..	0
1845....	6	1856....	8	1866....	1,137	1877....	2
1846-47 .	0	1857....	11	1867....	82	1878-91 .	0
						1892....	9

In the light of our present knowledge, it seems probable that the deaths reported from cholera in the years intervening between the epidemics were not cases of Asiatic cholera, but of sporadic cholera, or cholera nostras. It is stated that the records of the epidemic in 1832 are of the most meagre description, while the same comment applies to the epidemic of 1834. In the epidemic of 1848-49, the packet ship "New York" from Havre, arrived on Dec. 2 of that year, with 331 steerage and 21 cabin passengers, and a crew of 33. One passenger died at Quarantine, this case being followed by six others. Three deaths occurred subsequently, but no more cases resulted until the following May, nor do the annual reports mention any further importation of the disease.

The next case was reported on May 15, 1849, and the disease then rapidly extended throughout the entire city. In fighting the disease, great stress was laid upon cleanliness, frequent whitewashing, and the use of chloride of lime. The total deaths aggregated 5,071. The 57 deaths in 1850 are said in the annual report for that year to have been of newly-arrived immigrants only. The 374 deaths reported in 1852, according to the report, were undoubtedly cases of cholera nostras, and not of Asiatic cholera. In 1854 occurred the third severe epidemic in New York City, the number of deaths amounting to 2,509, 1,903 being of foreign-born and 606 of native-born persons. In 1866 there were 1,137 deaths, the steamship "Atlanta" from Havre arriving in November, 1865, with cholera on board, but no cases occurred in the city until the following May. The "Virginia" arrived in April, having lost during the passage 31 persons from cholera out of 1,138 who left Liverpool by her, and 66 more died at Quarantine. The "England" arrived April 20, having lost 250 of her passengers and crew on the voyage. The first death in the city occurred in an old "rookery" in an open lot on 93rd st., after an illness of 20 hours. Its origin was never established. During this epidemic, for the purposes of disinfection, sprinkling of quicklime and chloride of lime was employed, and whitewashing extensively practiced.

Eighty-two deaths were attributed to cholera during 1867 but many were doubtful cases and the disease was nowhere epidemic. Since that year, New York City was free from the disease until 1892, when nine cases were reported, although in many of the intervening years a few supposed cases were reported. These, including those of 1892, were, in all probability, cases of cholera nostras. The two cases reported in 1874, the year following the epidemic in the Mississippi valley, were investigated, and found to be without a doubt, cholera nostras.

VACCINATION AND REVACCINATION

While at present smallpox is a much less prevalent, less severe, and consequently less fatal disease than it was twenty-five to fifty years ago (fatality is now much less than 10 per cent, while previously it averaged nearly 20 per cent), our experience with influenza and other maladies shows that the virulence of a given infection may increase at any time so that we should be continuously on our guard with respect to a malady of such sinister character as smallpox.

The absence of smallpox causes a diminution in the practice of vaccination, and an increase in vaccination gradually banishes smallpox. The remarkable effect of vaccination was strikingly shown in Glasgow in 1901-2. That city had prepared an exposition at great expense, and when cases of smallpox began to be reported, realized that if something effective was not done at once the enterprise was doomed to failure. The city corporation acting under medical advice, accordingly started a great vaccination and revaccination crusade. The entire medical profession of the city was employed in the work, and all who could be induced to submit to the operation were vaccinated. The results were most striking. Starting out with a population of 675,887, which had not recently been vaccinated, the workers within the next 15 months, vaccinated 404,855 persons leaving only 271,032 who refused to submit to reinoculation. During this entire period not a case of the disease developed among the revaccinated, while among those not so protected there occurred a total of 1,858 cases.

The Commissioner appeals to all employees to see to it that they are revaccinated at once, if they have not been successfuly inoculated within five years, and to do their utmost to persuade all members of their families to be successfully vaccinated, and to urge upon all the value and desirability of at least one revaccination after puberty. It is thought that at least two vaccinations are required by everyone—one during babyhood and one at adolescence, although at any time that an epidemic of the malady appears, or threatens, it behooves all to repeat the process, irrespective of the number of previous inoculations.

In this vaccination and revaccination campaign, the Commissioner led the way, being vaccinated by Dr. Wilson before a moving-picture camera, in order to set a good example for the eyes of as many as can be reached in this way—"Staff News", New York City Department of Health.

STATE DRUG CLINICS CLOSED

Walter R. Herrick, commissioner of the New York State Narcotic Control Board, announced recently that there will be no more state clinics for addicts of habit forming drugs. He said that after a conference with Prohibition Commissioner Kramer it had been decided to close the twelve clinics which New York State has been maintaining. Commissioner Herrick said the clinics were closed because they were serving no purpose in the eradication of the drug habit. "The function of the clinics," he said, "was to get the addict down to the 'irreducible minimum' of the drug he was using, to the amount which he could not get along without, and then send him to a hospital for treatment. But there is now only one general hospital in the State, in Buffalo, which will receive addicts for treatment, so there is no point to the work of the clinics." The State should provide, in Commissioner Herrick's opinion, a large, separate institution for the care of drug addicts. There are now, he estimates, upward of 37,000 users of morphine, heroin, "coke" and the other habit forming drugs in New York State.

ALCOHOL RULES FOR DRUGGISTS

Washington, Sept. 8.—Revised regulations relating to the sale of alcoholic medicinal preparations and other liquor by druggists were issued today by the Bureau of Internal Revenue.

The regulations are amended to read as follows:

"Sec. 69 (b) Such alcoholic medicinal preparations, fit for use for beverage purposes, as are authorized to be manufactured by article XI thereof, and other liquor may be sold by retail pharmacists, or by retail druggists where the sale is made through a pharmacist, upon physicians' prescriptions to persons who do not hold permits to sell or use intoxicating liquor and without the necessity of receiving permits to purchase, form 1410, provided the name of the pharmacist (or druggist where the pharmacist is in his employ) appears on the prescription in the physicians' handwriting in addition to all other data required by Article XIII. Prescriptions may not be issued for more than one pint of spirituous liquors at one time.

Pharmacists are not permitted to refill any such prescriptions.

"Further they should refuse to fill any prescriptions for liquor if they have reason to believe that physicians are prescribing for other than medicinal uses or that a patient is securing, through one or more physicians, quantities of intoxicating liquor in excess of the amount necessary for medicinal purposes, which in the case of spirituous liquors shall not be more than one pint for the same person within any period of 10 days. Physicians may not prescribe liquors for their own personal use, and pharmacists should refuse to fill any such prescription presented to them. In every case where intoxicating liquor is dispensed on a physician's prescription, there must be affixed to the container thereof a label showing the following:

"Serial number of prescription (to be taken from the prescription blank); name and address of pharmacist or druggist; name of patient; name of physician. Kind and quantity of intoxicating liquor, and proof of spirituous liquor; date prescription is filled; directions for use."

VENEZUELA'S NARCOTIC REGULATIONS

The decree (in Spanish) dated July 2, containing regulations governing the importation into, exportation from, and sale in Venezuela of opium and its alkaloids, and of cocaine, prohibits the import, export, transit, purchase, sale and use of any kind of prepared opium, as defined in the Decree and in the International Opium Convention of 1912. Opium and its derivatives, cocaine and its derivatives, and synthetic preparations of any kind destined for substitutes for these substances may only be imported through certain ports (La Guiara, Puerto Cabello, Maracaibo, and Ciudad Bolivar) under license issued by the Director de Sanidad Nacional, and only by chemists, hospitals, and other duly authorized persons or institutions.

BRITISH EXPORT OF RAW OPIUM

The "London Gazette" of Tuesday August 24 announced that the Home Secretary proposes to make the following regulation under the Dangerous Drugs Act, 1920. It will come into force immediately as a provisional rule. Each package containing raw opium for exportation otherwise than by parcel post, shall have marked on one side and on the top, by branding, stencilling or painting, in conspicuous and indelible block lettering, at least 2 in. in height, the words "Raw Opium. Net Weight," and the number of pounds of net weight, the whole enclosed by a rectangular border at least ½ in. in width. Each package containing raw opium for exportation by parcel post shall have marked upon it in conspicuous and indelible black lettering the words "Raw Opium. Net Weight," and the number of pounds of net weight, the whole enclosed by a rectangular border. The marking shall be on the package itself and not on a label, ticket, or other thing attached thereto. No words, letters, or figures except those prescribed shall be placed within the rectangular border.

MUST MEDICATE PERFUMES

Washington, Sept. 21.—Aroused over the growing use of perfumes, patent medicines, flavoring extracts and other preparations containing alcohol for beverage purposes, internal revenue officials will begin a nation-wide campaign to eradicate this evil.

Manufacturers of such preparations will be ordered to medicate them to such an extent that they cannot be taken internally, or remove them from the market.

Officials were particularly interested in a statement made by Dr. M. De Groote, of the University of Pittsburgh, that glycerin can be substituted for alcohol in flavoring extracts. Some flavoring extracts contain as high as ninety-five per cent alcohol.

THESE NO MORE RARE

The elements, selenium and tellurium, are not so rare as is generally supposed. Indeed the term "rare element" is a rather vague and indefinite expression, says Dr. Victor Lenher, of the University of Wisconsin. Titanium, for example, is commonly regarded as such though F. W. Clarke has shown it to be more plentiful than carbon, sulphur, and phosphorus combined. Titanium, is, therefore, very plentiful but the number of its chemical compounds is very limited.

A recent estimate of the amount of selenium and tellurium that can be produced in the United States, without making any material additions to the present plants, has shown that this country can furnish more than 300,000 pounds of selenium and about 125,000 pounds of tellurium annually. The elements are commonly marketed in elementary form, although some of the refineries have produced small quantities of derivatives such as sodium selenite and tellurium dioxide.

The chemical characteristics of these two elements closely follow those of sulphur; indeed, the types of selenium and tellurium compounds are in general those of sulphur, but owing to their higher atomic weights they are more metallic. Tellurium in elementary form looks much like antimony. It is white and so strongly crystalline that it is quite brittle and can be easily powdered. Toward acids it is as refractory as antimony. Toward alkaline solutions it is strongly resistant, while in water or in moist air it does not rust or corrode appreciably. It is known that antimony can be electroplated and gives a durable plating. It would be interesting to study tellurium in this direction. A systematic study of the available electrolytes that can hold tellurium in solution could be carried out advantageously. Antimony has been successfully used for many years in antifriction alloys and is an essential constituent of stereotype metal. No recorded study is known of an attempt to utilize tellurium in these alloys, but the whole field of the metallic alloys of tellurium needs to be studied carefully, and unquestionably an element whose general characteristics are so close to antimony will be found a useful metal instead of having no practical applications.—(*J. Ind. Eng. Chem.*)

A College of Pharmacy Drug Garden

THE need of thorough training and scientific knowledge in the effort to make drug farming a success was emphasized by a number of speakers in a symposium on drug culture held at one of the annual meetings of the American Pharmaceutical Association a few years ago. The fact was also brought out that solution of the problems connected with this work needed the help of the plant pathologist, the entomologist, the chemist and botanist, as well as the farmer. These considerations have caused drug plant growing to become one of the problems of the college of pharmacy. The drug garden is of great educational value, and an important adjunct to the teaching of pharmacognosy. In the field of research it lends itself to the solution of economic pharmaceutical problems, as well as to the determination of the medicinal values of many botanical drugs.

While a number of colleges of pharmacy had established drug gardens and had paid some attention to medicinal plant culture prior to the World War, the importance of these adjuncts to the college equipment was not emphasized until about 1915, when the scarcity of botanical drugs here—due to the fact that the principal producing countries of Europe were engaged in war, and were neither growing nor exporting drugs—caused many American institutions to take an inventory of their resources and to do what they could to make good this shortage. The war and its experiences served to broaden the horizon of the drug growing industry, and among the forces at work in creating such a new development, the college of pharmacy drug garden has become a factor of the greatest possibilities.

In this work the Buffalo College of Pharmacy recently inaugurated a new departure by the establishment of a drug garden with Professor A. B. Lemon as director. The garden is now in its second year, and as an adjunct to the teaching facilities of the college, it has already become a recognized feature of the institution. As illustrating the scope and purposes of the drug garden, Dr. Willis G. Gregory, dean of the college, has very kindly supplied us with advance proofs of the following notes prepared by Professor Lemon, director of the garden:

Purposes of the Drug Garden

(1) To determine by experimentation what medicinal plants heretofore imported will thrive in this country. (2) To improve the methods of economic plant breeding. (3) To afford the students an opportunity to study the nature of medicinal plants as they grow.

When the war cloud burst in Europe a sudden paralysis of credit temporarily engulfed the Western world. As business relations were somewhat restored and ocean travel resumed many speculators crossed the ocean, some to deal in war materials, some in food materials and some in drugs. Few people realized that no merchant sells a more diversely born or more widely traveled merchandise than the druggist and accordingly no business is so quickly disorganized when trade routes are disturbed as the importing and distributing of drugs.

As the difficulties of importation increased due to hazards of the sea, our stocks of crude drugs became rapidly depleted and we suddenly found ourselves relying upon our own country for the production of many of our commoner drugs, such as castor beans, belladonna, cannabis, digitalis, etc. Fortunately for the drug trade the past decade has seen many of our schools of pharmacy as well as many of our leading pharmaceutical houses busily engaged in medicinal plant research. The internal conditions of the warring nations supplied an active stimulus to drug growers and today our own country is producing a much larger quantity of crude drugs than was ever dreamed possible before the war.

Our college has not been slow to see the need of a drug garden and through the kindly co-operation of the U. S. Department of Agriculture and the Department of Parks, City of Buffalo, we have been able to establish a drug garden in South Park. Our present effort is to determine what medicinal plants will thrive in this particular section of the country and the best conditions for their growth. Our subsequent attempt will be the improvement of medicinal plant cultivation to the end that we may have more uniform medicinal products.

It takes long years of patient effort to produce a special variety of fruit and just as much time and patience must be exercised in the production of a variety of belladonna or hydrastis in order to get the maximum yield of actual constituent. We believe that many of our medicinal plants now growing wild may be brought to a more uniform and perhaps augmented yield of active constituents by careful and painstaking cultivation. With these ideas in mind we believe that a drug garden is a necessary part of a college of pharmacy.

Excursions are made to the garden during the fall. The various varieties of medicinal plants are carefully labeled, which gives the student an excellent opportunity to study each. It is our sincere hope that some of our students and Alumni may make the growing of medicinal plants an economic pursuit. The director of drug plant cultivation will always be glad to co-operate by way of suggestion or material with anyone who is interested in this means of increasing our domestic production.

The following plants were grown in 1919, our first season: Acorus calamus; Althea officinalis; Aloe vera; Aloe ferox; Artemisia absinthium; Atropa Belladonna; Calendula officinalis; Carica papaya; Cannabis; Carum carvi; Cereus Grandiflorus; Chenopodium anthelminticum; Conium maculatum; Coriandrum sativum; Datura stramonium; Digitalis purpurea; Foeniculum vulgare; Hedeoma pulegioides; Hyoscyamus niger; Grindelia squarrosa; Iris florentina; Iris versicolor; Lavendula spica; Lobelia inflata; Matricaria chamomila; Mentha piperita; Mentha viridis; Papaver somniferum; Ricinus communis; Rosmarinus officinalis; Tanacetum vulgare; Thymus vulgaris.

NARCOTIC CONTROL DISCUSSED

The forty-ninth annual conference of the American Public Health Association was in session recently at the Exposition Auditorium, San Francisco, Cal., and its deliberations attracted wide attention.

The drug section, at its meeting held on September 14, split over the method of controlling and stamping out the use of narcotics, but both divisions were emphatic in the need for hospitals and sanitariums for the cure of addicts. Its members divided over the police and scientific methods of procedure, but the latter won out in the end when the section instructed its chairman to draw up an effective way of fighting the police method of control, which was declared worse than the narcotic habit itself. The police method was upheld in two papers—those of Sara Graham-Mulhall, deputy commissioner of the New York State department of narcotic drug control, and Dr. Royal C. Copeland, Health Commissioner of New York. Neither was present.

The scientific element was led by Dr C. E. Terry, of New York, who held that the police methods are futile and that the taking of narcotics should be treated as a disease and not as a vicious habit. He attacked the statistics contained in Miss Mulhall's paper, declaring that there were many addicts in New York not registered under the State law. Dr. Copeland's paper advocated the prohibition of the importation of heroin and of a large part of the opium now brought in. The United States imports a half a million pounds a year, he said, when one tenth this amount would meet all legitimate needs.

Commissioner Mulhall advocated a national campaign of education and enforcement, Federal control of narcotics, the passage of an amendment to the Federal constitution, giving Congress the power to stamp out the narcotic evil, the taxing of heroin out of existence, the enactment of a Federal hospitalization bill, and a searching investigation into the characters of men empowered to distribute narcotics.

"DIRECTIONS INSIDE"

Druggists selling whiskey on prescriptions are required to give the purchaser "directions for use," under the latest ruling of the Treasury department. This is interpreted as meaning they must write the directions given by the prescribing physician on the label of the bottle.

An entire new section has been written into the regulations to curb if possible the illicit sale of liquors, and to prevent the use of "medicinal alcohol," such as whiskey and brandy, for other than medicinal purposes. The newest ruling draws the strings tighter than ever before, and even prevents a physician from prescribing whiskey for himself.

Say the latest regulations:

"Prescriptions may not be issued for more than one pint of spirituous liquors at one time. Pharmacists are not permitted to refill any such prescriptions. Further they should refuse to fill any prescriptions for liquor if they have reason to believe that physicians are prescribing for other than medicinal uses or that a patient is securing, through one or more physicians quantities of intoxicating liquor in excess of the amount necessary for medicinal purposes, which in the case of spirituous liquors shall not be more than one pint for the same person within any period of 10 days. Physicians may not prescribe liquor for their own personal use, and pharmacists liquors shall not be more than one pint for the same person within any period of 10 days. Physicians may not prescribe liquor for their own personal use, and pharmacists should refuse to fill any such prescription presented to them. In every case where intoxicating liquor is dispensed on a physician's prescription there must be affixed to the container thereof a label showing the following:

1. Serial number of prescription (to be taken from the prescription blank).
2. Name and address of pharmacist or druggist.
3. Name of patient.
4. Name of physician.
5. Kind and quantity of intoxicating liquor, and proof of spirituous liquor.
6. Date prescription is filled.

Besides this pharmacists must indorse their signature upon each prescription for liquor at time of filling and also write the word "cancelled" over the prescription together with the date filled. All prescriptions must be "carefully guarded," the ruling declares, and must be separated from other prescriptions. A complete check-up on receipts and sales of intoxicating liquor is also required by the new rules.

Another regulation provides:

"All persons are forbidden to transfer intoxicating liquor from one container to another, whether or not rectified or otherwise treated in the interval, without placing a label upon the new container in the same manner and containing the same data as the label upon the container from which transferred. This requirement does not apply to containers holding one pint or less, except in the case of labels especially provided for bottled-in-bond whiskey and brandy, medicated alcohol, certain medicinal preparations, and other alcoholic compounds, and beverages containing less than one-half of 1 per cent of alcohol by volume produced under Article VI, provided that when intoxicating liquor is sold through a pharmacist pursuant to a physician's prescription, the label required as amended need only be affixed."

The Editor's Correspondence

OPPOSED TO COLLEGE PREREQUISITE

Editor, Pharmaceutical Era:

An article on page 228 of the August number of The Pharmaceutical Era, "The Basis of Reciprocal Registration," called to my mind the injustice, the several organizations, together with the Association of the State Boards of Pharmacy, are endeavoring to administer to thousands of ambitious young men all over the United States by raising the requirements for full registration so that only graduates of a reputable college of pharmacy may be admitted to examination. I am speaking from the unregistered man's point of view, as I am not at present registered myself. However, I have just been examined by the Arkansas State Board of Pharmacy and have not as yet received a report on my examination, but I expect to go before the Texas Board of Pharmacy on Sept. 21, but regardless of whether I pass or not, I am opposed to these new regulations.

Understand I am not trying to argue against a college education, for the college man has a decided advantage over the man who is not so fortunate. But on the other hand, if I can by hard work and study, gain enough knowledge about a given subject to pass the regular examination, what right has the State board of pharmacy to demand of me where I obtained that knowledge?

Some of the most accomplished men we have in the United States to-day never had a college education, or an education from a reputable technical or trade school. Would you be willing to forbid or prohibit these men of accomplishment to give to the world of suffering humanity the knowledge they have gained by hard work, study and experience just because they do not have a little scrap of paper stating that they have attended a reputable school? A man's work is not done as soon as he gets a certificate to practice pharmacy, it has only begun; and as far as educated people are concerned, they are all dead, for we learn a little every day until the undertaker calls for our remains, and then our education is complete.

I would like to see the editors of the different trade journals over the country give a little publicity to the other side of this question, and if my views are wrong, convince me. I am ready to fight for the right. I am for better pharmacy, and also for anything that is for the betterment of humanity.

Yours very truly,

Earl E. Harris.

Waxahachie, Texas.

PENALTY ON MISINFORMING THE PRESS

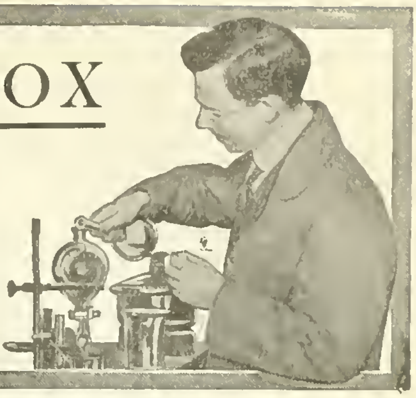
The new New York law which makes it a misdemeanor for a person wilfully to furnish false information to a publisher for publication went into effect last month. The new statute extends the scope of the libel law by making it possible to hold the person who furnishes false information liable for damages. Heretofore, when a spurious article or news item was sent to a newspaper, the proprietor of the publication alone was liable for damages.

THE QUESTION BOX

The "How to Do It" Department

CONDUCTED BY PHARMACEUTICAL EXPERTS

For the benefit of ERA Subscribers



Books on the Manufacture of Soap

(H. M. S.)—The following are standard works on the manufacture of soap, most of them giving some details relating to toilet soaps, glycerin, etc.

Brannt, Soap Maker's Hand Book	$6.00
Lamborn, Modern Soaps, Candles and Glycerin	7.50
Watt, Art of Soap Making	3.50
Deite, Manual of Toilet Soap-Making, comprising Toilet Soaps, Medicated Soaps and other Specialties	7.50
Simmons and Appleton, Handbook of Soap Manufacture	
Hurst, Soaps, a Practical Manual of the Manufacture of domestic, toilet and other soaps	
Gathmann, American Soaps: Treatise on the manufacture with special reference to American conditions and practice	15.00
Gadd, Soap Manufacture	1.50

Manufacture of Indian Soy

(H. J. T.)—The genuine Indian soy is imported from China and Japan and, we are informed, is very rarely, if ever, sold through wholesale drug houses, but usually the large grocery establishments and importing firms are in a position to supply it. As you are probably aware, "soy" is a sauce in general use throughout the East, particularly in China and Japan. According to Dr. Green's "Food Products of the World," "the basis of soy is the soy bean, a food plant which has been cultivated in Japan since the earliest dynasties, and is today one of Japan's most important crops. The different varieties of the soy bean produce three kinds of soy known as the black, the green and the white. The process of making soy (the sauce) consists in first boiling the beans and mixing them with parched barley and wheat coarsely ground. This barm is fermented and when the whole mixture is covered with fungi it is mixed with brine of a certain strength, which has already been boiled and allowed to cool. This mixture is then kept for fermentation about twenty-five months. It is stirred with a wooden paddle twice a day during winter, three times a day in summer and, when sufficiently fermented, is put through a soy press. It is then heated to 130° F., and after becoming cold again, is put up in bottles and casks. It may be preserved for any length of time. In appearance it resembles Worcestershire sauce and from a nutritive point of view is superior to any other sauce in our markets."

It is stated on good authority that the method of manufacture, so far as the details are concerned, is practically a secret, and that the imported Indian soy has not been successfully imitated, although a number of formulas have been published. Here is one taken from Cooley's "Cyclopaedia of Receipts" (1890); Take of the seeds of *Soja hispida* (white haricot or kidney beans may be used for them), 1 gallon; boil them in sufficient water until soft, add bruised wheat, 1 gallon, and keep in a warm place for 24 hours; then add common salt, 1 gallon; water, 2 gallons; put the whole into a stone jar, and bung it up loosely for two or three months, shaking it very frequently during the whole time; lastly press out the liquor and bottle it; the residuum may be treated afresh with water and salt, for soy of an inferior quality.

According to the Era Formulary, an imitation soy may be made as follows; Syrup, ½ gallon; extract of malt, 4 pounds; molasses, 4 pounds; salt, 4 pounds; mushroom juice, 2 pints. Mix, heat gently, set aside for two weeks, then decant.

What Are Ultrafiltrates?

(M. G. G.)—Ultrafiltrates are solutions which have been filtered under pressure through a colloid membrane, so that the ultrafiltrates consist principally of crystalloids, the colloids remaining on the membrane. When a colloidal solution, such as collargol, is filtered through paper it passes through as a brown solution unchanged, but the ultrafiltrate is clear and colorless, the silver remaining behind. Ultrafiltration is therefore dialysis under pressure, with the advantage that the solution need not be diluted first and concentrated again afterwards. If you will refer to the Year Book of the A. Ph. A. for 1918, recently issued, you will find a description and illustration of an ultrafilter which may prove helpful.

On looking up the literature of the subject, we find that the process was originated by R. Zsigmondy, who described his apparatus in *Zeitschr. f. angewandte Chemie*, 1913, 26, 447, as consisting of a vacuum funnel on which is laid a filter plate covered by a border, all of these being polished to fit closely. On the filter plate a sheet of filter paper is laid, covered by a collodion membrane, which is prepared in the following manner; 400 cc. of a 6 per cent solution collodion are diluted with 200 cc. of ether and 500 cc. of absolute alcohol. This solution is poured equally on a plate of mirror glass, and when the ether has evaporated to such an extent that the surface is not sticky the glass and coating are placed under water for about ten minutes, when the collodion membrane can be removed easily and laid on the filter paper; it must of course, be large enough to cover right over the filter plate and be free from holes. The funnel and filter-plate are then fixed tightly together with holdfasts and placed on a vacuum filter flask, and the solution passed through under pressure. Zsigmondy recommends the solution to be filtered through paper first to remove insoluble matter. Professor Dr. F. Blumenthal reports on the pharmacological results. By means of the process watery solutions of vegetable substances have been prepared which contain all the active ingredients without the resinous and gummy matters, so that they can be used for painless injection. The ultrafiltrate of a watery solution of digitalis, for instance, contains all the active glucosides. Professor Blumenthal has experimented with the ultrafiltrates of digitalis, opium, and convallaria. It has been found that the alkaloids morphine, codeine, papaverine, etc., do not produce the same effect as opium itself, and the combination of the alkaloids in such preparations as narcophine have not been very satisfactory, whereas the official preparations contain large quantities of resin, wax, etc., and the extract only contains a portion of the alkaloids narcotine, papaverine, and thebaine.

Diabetic Foods

(R. C. F.)—Recently medical literature has emphasized the use of the soy bean as a valuable addition to the dietary of the diabetic on account of its palatability and the numerous ways in which it can be prepared. It is rich in protein and fat and contains only traces of starch. Wiley ("Foods and Their Adulteration") gives the following formula for soy bean muffins; Take 1¼ teacupfuls of the soy flour, ¼ teacupful of wheat flour, ½ teaspoonful of salt, 2 eggs, 1 teacupful of sweet milk, 2 rounded teaspoonfuls of baking powder, and 1½ tablespoonfuls of melted, but not hot, butter. Beat well together, adding the melted butter last, and bake in gem pans in a hot oven. This will make about 12 muffins, which will contain about 150 grams protein and which yield about 1800 calories, of which the carboyhydrates produce but 280.

Here is another formula for a "home made diabetic bread substitute," taken from the *British Medical Journal* and appearing in the Year Book of the British Pharmaceutical Conference for 1917; Pea-nut flour, 8 ounces; casein, 2 ounces; a pinch of salt; white of egg, 12 ounces. The white of egg is beaten to a snow, and then the other ingredients (previously lightly mixed) are slowly added. The bread is baked in a sound oven in a tin. If the pea-nut flour cannot be easily procured the pea-nuts, which are sometimes called monkey nuts, can be bought anywhere. They should be placed on the top of the oven for a short time when the husk can be rubbed off with the hand and the nuts ground in a small hand mill. The whites of eight or nine eggs measure about 12 ounces. This bread when tested with iodine gives only the faintest blue reaction. If preferred, the yolks also can be used in making the bread and then only half the number will be needed. The bread made from the whites alone is generally considered to be more palatable.

Properties of Corn Oil

(J. G. L.)—According to Lewkowitsch, the process of manufacture now employed consists in first malting, then crushing the corn, which is then beaten up with water to a fine pulp, the germ being separated from the starch by sieving. The isolated germs are then expressed like oleaginous seeds in hydraulic presses. In a dry condition the germs contain 53 per cent of oil, and yield in practice about 40 per cent. The whole grain contains 4-10 per cent of oil. The cake, which results as a byproduct in the expression of the germs, is sold as cattle food of somewhat inferior value.

The oil is mainly composed of the glycerides of palmitic, oleic, stearic, etc., acids, has a pale to golden yellow color, a characteristic odor and a taste resembling corn meal. It is slightly soluble in absolute alcohol and glacial acetic acid, and answers the same color tests as other oils of this class. A distinctive test is reported by Archbutt (Year Book of the A. Ph. A., 1918) as follows; cold nitric acid of a sp. gr. of 1.375 gives a bright red color when shaken with corn oil. According to Vaulte and Gibson a fine violet color is produced when one drop concentrated sulphuric acid is added to carbon disulphide solution of corn oil and the mixture allowed to stand 24 hours. A. Thurston produced a permanent blue color by adding to corn oil an equal amount of glacial acetic acid or acetic anhydride and one or two drops of Froehde's reagent. This is not characteristic of corn oil, however, as other oils of this class and some animal oils answer this test. The color is not due to any color in the oils, but probably to the phytosterol and cholesterol content. Purity tests should determine the following constants; sp. gr. 0.9202; refractive index, 1.4770; iodine value, 119-122; saponification value, 188-192.

Preserving Fruit Juices

(C. A S.)—Success in preserving fruit juices and fruits for the soda fountain is largely a question of personal experience and care, and while large manufacturers may have some "trade secrets" or "short cuts" in doing this work, the real secret consists in observing absolute cleanliness, using good fruit, and sealing the containers when the preserved fruit is in an absolutely sterile condition. The jars should be thoroughly sterilized before being filled with fruit, a procedure which destroys the bacteria that causes the fruit to spoil on standing in the containers.

To sterilize the jars, fill them with cold water containing about a teaspoonful of borax to 3 gallons of water. Screw the tops on about half down and then heat slowly until the water is boiling. Continue the boiling a few minutes, take the jars out and let them cool slowly. Do not put the jars (if glass) in a draft of cold air. After the jars have been sterilized, they may be filled with the fruit and placed back in the boiling water and the tops screwed about half-way down. After 20 or 30 minutes, take the filled jars out and screw the tops down tight. Fruit in jars should not be kept in the sunshine or in a place where there is much light, as storage under such conditions causes the fruit to lose its color.

To preserve fruit juices: Express the juice of the fruit and pass through a filter prepared by stuffing absorbent cotton into the neck of a funnel or receiver and covering the cotton with a layer of moderately coarse silica. Cleanly washed river sand, previously roasted to remove the organic matter and then sifted, also answers well as a strainer. After filtering, heat the juice on a waterbath to 75° C., and continue this heat for an hour or so. Then pour the juice into the containers, which have been sterilized in an oven, removing them from the oven only as needed for filling. Add to the juice one-tenth of 1% of benzoic acid as a preservative. Cork quickly and seal at once, paraffining the corks. Under the Federal food and drugs act, the use of benzoic acid is permitted, provided a declaration of the fact is made on the label. The principle underlying the methods given is that employed by all manufacturers. The details of operation may differ, but success is based upon thorough sterilization and attention to the smallest details at every stage of the work.

Marine Glue

(H. W.)—Here are two formulas under the above title taken from the Scientific American Cyclopedia of Formulas;

(1)

Dissolve 1 part of India rubber in crude benzine, and mix with 2 parts of shellac, by the aid of heat. The waterproof character of this cement, in connection with its slight flexibility, the ease with which it is applied when warm, and the promptness with which it sets on cooling, make it a most useful substance in many applications to house construction and furniture, as well as on board ship, where it was originally intended to be chiefly employed.

(2)

Caoutchouc, 1 ounce; genuine asphaltum, 2 ounces; benzol or naphtha, q.s. The caoutchouc is first dissolved by digestion and occasional agitation, and the asphaltum is gradually added. The solution should have about the consistency of molasses.

The Progress of Pharmacy

Derivation of Drug Names—

The origin of the name of a drug is often a means of determining the antiquity of the drug and tracing the route followed by the drug in reaching us. If the name contains a Sanscrit root it may be assumed that India was its original home. The word "Sesame" occurs in Assyrian-Babylonian cuneiform script as samn, or samni, then in Egyptian as smsmt, in Coptic as semsem, and in Arabic as simsim. Myrrh occurs also in Assyrian as murru, and olibanum as labana. Sinapis has come to us from the ancient Egyptian snft, the hieroglyphic equivalent of which is to be found on tombs. The cuneiform tablets of the Koesyoundjik library contain numerous names of drugs, but unfortunately only a few have been correctly identified. Oriza is of Sanscrit origin (vribis), through the Persian (brizi), and Arabic (arruz), *Zingiber* is also probably of Sanscrit origin. So also *Cannabis*, from the Sanscrit cana (cane), and pis (nettle); Kamala, from Kapila (dull red). Many names are probably derived from the Arabic, as, for instance, saffron, from safra (yellow), caraway from Karawya.—(*Schweiz. Apoth. Ztg.* through *Pharm. Journ.*)

Process for Making Hexamethylenetetramine—

Herzog gives the following method for the preparation of hexamethylenetetramine: Commercial ammonium carbonate is dissolved in 40 per cent formaldehyde solution, the reaction taking place readily without application of heat and with brisk evolution of CO_2. The solution is evaporated to dryness on a water bath under reduced pressure, and the residue is sublimed *in vacuo* or recrystallized from absolute alcohol. To compensate for its variable composition the amount of ammonium carbonate taken should be about 10 per cent in excess of the theoretical quantity. The yield of hexamethylenetetramine is about 66 per cent of the theoretical amount.—(*Z. angew. Chem.* through *Chem. Abstracts*)

Tartaric Compounds of Antimony—

A. Blanchetirere finds that the solution of antimony hydroxide in a solution of tartaric acid is a process of esterification. This confirms the earlier views. According to B., the monostibiotartaric acid may be best obtained from the complexes richer in antimony by extraction with acetone.—(*Bull. Soc. Chim.*)

The Estimation of Nitroform—

P. V. McKie reports that nitroform may be estimated accurately even in the presence of nitric and nitrous acids. The method consists in adding the nitroform solution to a known excess of tenth-normal solution of potassium permanganate acidified with sulphuric acid and heated to 30° C. After one minute at that temperature, an excess of potassium iodide is added and the liberated iodine titrated with standard thiosulphate. Nitrous acid must be removed if present by boiling for one minute with ammonium nitrate. The equation of the reaction is $CH(NO_2)_3+2O_2+H_2O=CO_2+3HNO_3$—(*J. Chem. Soc.*)

Purification of Benzoic Acid—

Phillips and Gibbs have devised the following scheme for the purification of benzoic acid by fractional condensation. Crude benzoic acid is vaporized in a cylindrical iron vessel, the vapor escaping at the top through a 1 inch iron pipe, which extends through two sheets of asbestos and a thick glass plate placed horizontally just above the cylinder into a circular wire-gauze (¼ inch mesh) chamber resting on the glass plate; other wire gauze chambers are fitted concentrically round the first and the series is covered with a second glass plate. The cylinder is heated by an oil bath, and the chambers by a current of hot air. When the temperature inside the first wire gauze chamber is about 60° C., and that of the oil bath 120° C. the air inflow into the chamber is discontinued and air is passed into the top of the cylinder through a copper coil in the oil bath. The benzoic cid sublimes and condenses on the gauze screens. There is a sharp drop in temperature as the gases pass through the screens and very pure benzoic acid may be obtained in one or the other of the chambers.—(*J. Ind. Eng. Chem.*)

Colorless Variety of Mercuric Iodide—

Mercuric iodide may be obtained, temporarily, in colorless crystals, as follows; About 10 grams of the salt is placed in a long tube, sealed at one end, and connected with a large vessel at the other, and heated to 300-350° C. The pressure is suddenly reduced to about 7 mm., when the mercuric iodide sublimes into the large vessel and condenses as a white snow, which in a few seconds becomes rose pink, and ultimately the usual bright red color. By cooling the large vessel previous to the experiment the sublimate may be caused to preserve its colorless form for a longer period. The yellow variety of mercuric iodide becomes colorless at the temperature of liquid air.—(*Zeitsch. Anorg. Chem.* through *Pharm. Journ.*)

Sodium Carbonate As An Antidote for Chloroform Poisoning—

Graham has carried out some further experiments on chloroform and reports that the criticisms made of his earlier experiments were not justified. In a trial on dogs, one dog which had been poisoned with chloroform was given 239 cc. of a solution containing 1% soda and 1½% sodium chloride. Another dog which had been poisoned in the same way was treated with sodium chloride solution alone. This dog died in less than 24 hours, while the first one recovered completely. The liver and kidneys of the second dog showed marked effects from the chloroform. Graham thinks that these experiments corroborate the earlier statements that the administration of alkali will counteract chloroform poisoning.—(*Arch. Intern. Med.*)

Medicinal Uses of Amber—

It is somewhat curious to find the belief in the curative virtue of amber necklaces, in cases of cold in the head, still seriously held. One correspondent reports such a cure in a case that had refused to yield to any other treatment, and attributes it to the action of amber so worn on the mucous membrane! Another only goes so far as to suggest that since amber had apparently a curative value as used internally by the old physicians, its use in necklaces had a rational basis "according to the views once in vogue," which is reasonable enough. The modern use of oleum succini both externally and internally is also mentioned. It has been denied that amber was known to the Greeks in very early times, the Greek *electron* having been used as a name both for it and for amalgam of gold and silver, a species of gold ore washed down by the Pactofus; but amber has actually been found at Mycenae, and the fact that the electron necklace mentioned in the Odyssey is said to have been a gift from Phoenicia means much. The Phoenicians are known to have introduced amber into the East, and Herodotus says it was brought from the River Eridanus in the extreme West of Europe. Eridanus is the name of more than one river, but it is probable that he refers either to the Vistula or to the Rhodaune, both of which flow into the Baltic near Dantzic. To get there the Phoenicians would doubtless sail westward round Europe. Amber has been used in medicine since the time of Hippocrates: formerly it was prescribed in powder in doses of from one dram to one ounce, and given in poached egg. The "volatile" salt obtained in the process of distilling the oil was another favorite form.—(*Ch. & Dr.*)

The Use of Strychnine with the Glycerophosphates or the Alkaline Cacodylates—

Experiments made by Leclere show that strychnine salts may be used in connection with the glycerophosphates or the alkaline cacodylates if sugars, such as sucrose or related compounds, are used to keep the strychnine in solution. One of the formulas suggested for this purpose is sodium glycerophosphate, 100 g., sodium cacodylate 50 g., strychnine 1 g., sucrose or cane sugar, 250 g., water to make 1000 cc. It is claimed that this solution is permanent and that the injection of it is painless.—(*J. Pharm. Chim.*)

Troubles with the French Official Solution of Chloride of Iron—

The French Codex does not insist upon a test for sulphates in this solution. Richard and Malme report that at the present time there is rarely found an official solution of chloride of iron which does not contain sulphate, often in considerable quantities and sometimes to the point where it is necessary to believe that it has been adulterated. In course of a year, they have found very few solutions which did not contain sulphate and in one case tested, a solution was found which contained 19%, expressed as ferric sulphate. It had a specific gravity 1.355 in place of 1.26 and only 15.7% of ferric chloride in place of 26%.—(*Journ. Pharm. et Chim.*)

Test for Morphine—

Lautenschläger advocates using the diazo reaction of morphine to test for it in the presence of other alkaloids of opium and their derivatives. By this method, he claims, it is relatively easy to distinguish morphine in the presence of other alkaloids. To the solution to be examined is added an aqueous solution of 2% diazobenzenesulphonic acid, freshly prepared. It is then made alkaline with sodium bicarbonate. According to the concentration of the morphine solution there is obtained a solution varying from a clear to dark red. On acidifying the solution, the color changes to orange. Concentrations for which this test is suitable are from 5 mg. down to 0.5 mg. of morphine per cc.—(*Schweiz. Apoth. Ztg.*)

Medical Thermometers in Algeria—

A decree of March 7, 1920, has declared applicable to Algeria the law of August 14, 1918, which makes obligatory the verification and control of medical thermometers, also, the decree of March 3, 1919, which provides for the administration of the law. Sealers of weights and measures, officers of the judiciary police, and inspectors of drug stores are directed to proceed with investigations to establish violations. The work of these agents consists in examining thermometers offered for sale and to make sure that the thermometers bear the official seal of verification. There is only one verification service, which is established in the experimental laboratory of the National Conservatory of Arts and Trade, and the seal of this service alone constitutes the guaranty required by the law. A new notice will indicate the details of the application of the law in the colony.—(*Farmacia*)

Purifying Fats and Oils—

A method proposed for the purification of fats and oils, and which also gives good results with distilled olein, consists in treating them with nascent hydrogen evolved in the reaction between zinc and sulphuric acid, the product thus obtained being white. Rancid fats may be rendered fit for use by boiling them with live steam, and treating them while boiling with 1 to 2 per cent of alum, which is added, little by little, as a concentrated solution. The fat is neutralized, etc., after an hour.—(*J. Soc. Chem. Ind.*)

Microchemical Detection of Opium—

According to the Pharmacopoeias of Switzerland and Germany, opium contains the remains of the epidermis of the capsule. These fragments of epidermis may occur in very small quantity and be difficult to find, especially in powders containing opium. Rosenthaler proposes the following methods, which do not necessitate previous isolation of the alkaloids; (1) Mix the powdered drug with formalin-sulphuric acid; the fragments of opium surround themselves with blood-red, purplish-red, or sometimes violet zones from which streams of the same color extend; the violet color is the most characteristic. (2) Mix the powder with solution of ammonia; crystalline precipitates appear, the most conspicuous of which are circular or oval sphaerocrystalline masses, mostly 7 to 10 *u* in diameter, but attaining 15 *u*, and either near the particles of opium or distributed irregularly over the slide. They polarize when examined between crossed Nicol's prisms, and many, but not all, exhibit a black cross similar to that shown by starch grains. These are soluble in dilute acid, and also in solution of soda, and in addition give the formalin-sulphuric acid reaction; they therefore contain or consist of morphine. The best method of procedure is to precipitate the morphine with ammonia, allow the ammonia to volatilize at ordinary temperature, and apply the formalin-sulphuric test; the identification may then be considered certain.—(*Schweiz. Apoth. Ztg.* through *Pharm. Journ.*)

Disinfectant for Soda Water Glasses—

L. E. Sayre and F. A. Patty in a laboratory investigation undertaken to determine whether chlorinated soda solution would serve as an efficient disinfectant bath for washed soda water glasses, find that the most satisfactory solution is one containing 0.05% available chlorine and almost neutral. This bath is harmless to the hands, and the authors recommend that it be prepared fresh daily. At the fountain, glasses must not be permitted to become entirely dry, but should preferably be washed, then rinsed in tap water and placed in the disinfectant.—(Kansas Board of Health *Bulletin*)

Aspirin Sales Restricted in Argentina—

The Argentine Health department, according to *Commerce Reports* of July 17, has decided to restrict the sale of aspirin except as prescribed by a physician. For another six months druggists will be permitted to continue the unrestricted sale of those brands of aspirin or of medicines containing aspirin that are already on the local market, but no new ones may be introduced. After the six months has expired the sale of the old brands will be prohibited also, except on the requisition of an authorized practitioner.

Lavatory Deodorant—

Sodium bicarbonate, 5 ounces; alum, 5½ ounces; potassium bromide, 4 ounces; hydrochloric acid, enough; water, enough to make 4 pints. To 3 parts of boiling water add the alum and then the bicarbonate. Introduce enough hydrochloric acid to dissolve the precipitate of aluminum hydrate which forms and then add the potassium bromide. Add enough water to bring the measure of the finished product up to 4 pints.—(*Nat. Dr.*)

Hand Cleaner—

Ivory soap, 750 grams; sodium carbonate, 20 grams; hot water, 120 mils. Reduce the soap to fine shavings, and add to the hot water in which the sodium carbonate has been dissolved. Heat the mixture in a water bath until soft, then add: Powdered pumice stone, 200 grams, powdered talc, 50 grams, and oil of sassafras, 1 mil. The pumice stone should be in the form of very fine powder—(*Cal. Retail Dr. Jour.*).

New Books for Pharmacists

YEAR BOOK OF THE AMERICAN PHARMACEUTICAL ASSOCIATION, 1918. Volume 7, 8 vo., 714 pages, cloth. Chicago. Published by the association.

This volume contains the sixty-first annual report of the progress of pharmacy, and the constitution, by-laws, and roll of members, corresponding to Volume 66 of the former proceedings of the association. The abstracts were prepared by Prof. Henry V. Arny and a staff of twenty-three collaborators, representing specialists in a number of fields of pharmaceutical effort, their names being given on the introductory page. In presenting his report, Prof. Arny calls attention to a new departure this year whereby desirable co-operation has been effected in the preparation of the abstracts, and which, it is hoped, may be the beginning of similar arrangements elsewhere. Thus, in the preparation of this report, he has been favored through the courtesy of Prof. Henry Kraemer, editor of the Pharmacognosy Section of "Botanical Abstracts," with abstracts published in that journal and which are reprinted in this volume.

As heretofore, the abstracts are classified by subjects: Pharmacy, which covers information relating to general subjects, apparatus and manipulation, preparations, new remedies and trade-named preparations; Materia medica, general subjects, vegetable drugs, animal drugs and products; Inorganic chemistry, non-metallic elements and metals; Organic chemistry, hydrocarbons, volatile oils and derivatives, alcohols and derivatives, aromatic derivatives, fixed oils and fats, carbohydrates, organic acids, alkaloids, glucosides and neutral principles, coloring matters, albuminoids, sera and vaccines, urine, blood, bile, etc. An examination of the material presented in abstract form in the different classes enumerated is sufficient to convince any one engaged in pharmacy of the helpful character of this book, the journals drawn upon to supply this information representing practically all of the technical fields allied to pharmacy throughout the civilized world.

The volume also contains the usual association data relating to membership, deceased members, officers, constitution and by-laws, general rules, and a statement of the funds of the association, revised to January 1, 1919. As a frontispiece ,the volume carries a full page portrait of Charles H. LaWall, president of the association, 1918-19; there are also very complete indexes both by subject and author's name at the end of the book.

HOW TO PASS THE BOARD. A text book for preparing students to pass the examinations of any State Board of Pharmacy. By D. Charles O'Conner, author of "Commercial Pharmacy," etc. 12 mo., 435 pages, cloth. Boston, The Spatula Publishing Company.

The author states at the outset that this book is not a substitute for the U.S.P., N.F., or the Dispensatory, but that it is a great help for the better understanding of these books by showing the student just what he should study in them and just what he should not. Organized knowledge is the foundation of all advancement, and with respect to the object of this book, it means "the essentials of pharmacy, the points needed for every day store life, grouped in their logical sequence, and explained so simply that the reasons for these essentials and natural groupings help the student to grasp the structural outline of pharmacy as well as the important insides in such a clear manner that he can memorize them, hold them, and then deliver them when needed."

In this respect, the author has grasped and worked along a definite principle too often submerged in the preparation of the average "quizz compend" which is usually compiled solely to help drug clerks "pass the board." What is most needed is a systematic and logical presentation of the entire subject of pharmacy, so that facts are shown in their true relation to each other and in proper perspective to the object in view. This method of procedure has been well maintained throughout this book, and there can be no question but that if the clerk or druggist will study it intelligently and conscientiously he will be put in possession of a logical and well-digested set of facts that will help him in the practice of his calling throughout life.

The subject matter is presented in the following order: Part I, Processes; Part II, Preparations; Part III, Pharmaceutical chemistry (division 1, inorganic compounds, division II, organic compounds); Part IV, Therapeutical groups of official drugs; Part V, Prescriptions. The frequent comments on almost every phase of pharmacy appearing in this book force home the conviction that the observations thus recorded have been made by a practical pharmacist, and therein much of their value lies.

SCHEDULE OF ANTIDOTES FOR POISONS. Issued by authority of the pharmacy law of the State of New Jersey. 1920, Trenton, MacCrellish & Quigley Co., State printers.

The above title is self-explanatory of the character of this bulletin, recently issued by the Board of Pharmacy in accordance with Section 6 of the Pharmacy Act, amended not long since by the State legislature. An introductory note states that the "schedule" has been prepared by one who is both a physician and a pharmacist, and while it is not claimed that the work is perfect, both the compiler and the board of pharmacy have aimed to make it as practical, convenient and reliable as present scientific knowledge permits. While we find no reference to such substances as formaldehyde, diethyl-barbituric acid, oil of mirbane, cresol (lysol), and possibly a few other compounds designated as "poisons" in the schedules provided in the laws of one or more States, the work has been well done. Of the substances we have named, we think an antidote for formaldehyde should be given, as a number of poisonous cases have been reported from the accidental use of this compound, which is now quite extensively employed by the common people in treating grain and as a disinfectant.

In listing the poisons in this "schedule," to avoid needless repetition, the drugs which have a similar action are arranged in groups, the drug itself being named first, and followed by its constituents, e. g., Digitalis (digitalin, digitoxin), etc. The poisons are arranged in the alphabetical order of their names, the antidote being placed opposite the respective poison. In cases where an antidote is recommended for several poisons, the antidote is referred to by its index number after the name of the poison which it is intended to counteract.

PHOTO-ENGRAVING PRIMER. Concise Instructions for apprentice engravers or for those seeking simple yet practical knowledge of line and half-tone engraving. By Stephen H. Horgan, author of "Horgan's Half-Tone and Photomechanical Printing Processes," etc. 12 mo., 81 pages. cloth. Boston, American Photographic Publishing Co.

The author of this book is an authority in this particular field, and he observes that, as there have been no changes in the methods employed in photo-engraving during the past few years, the art has about reached the limit of its development, and therefore it is now time to record present-day procedure. These details he describes in this book in easily understandable language and in a manner that will tell you however little technical experience you may have had, just how photo-engraving is done.

To begin with, photo-engraving is the term used for the engraving of metal plates in relief, with the assistance of photography, so they may be printed together with type. There are two divisions of the work, the first being line engraving in which the subject to be reproduced is in lines or solid areas, such as pen drawing, a print from a wood engraving, or a type page. In fact, anything that has once been printed can be again reproduced by line engraving. The second division of photo-engraving is called half-tone engraving, in which a photograph, painting, water color, wash drawing, or any object possessing gradations of tone, may be photographed through what is termed a half-tone screen and its image so broken up into lines or dots that it may be printed on a typographic press.

Following this outline, the book is divided into two parts, Part I being descriptive of line drawing, the studio, camera dark room and the various devices and numerous requisites needed for such work, methods of photo-printing on metal, etching, etc. In Part II are described the half-tone screen, requisites for copper half-tones, negative making, vignetting, etc. A glossary of some of the terms used by photo-engravers, with definitions, synonyms, etc., concludes the book.

RIGBY'S RELIABLE CANDY TEACHER with complete and modern soda, ice cream and sherbet sections. By W. O. Rigby and Fred Rigby, 13th edition. 8 vo., 271 pages, limp cloth. Topeka, Kansas. Rigby Publishing Co.

In the author's preface to this book he states that candymaking, like every trade or profession, is constantly being subjected to changes, a statement he bases upon his own past experiences of the confectioner's art since the time he first learned the business in his father's shop nearly forty years ago. He observes that the candy craft progresses and that the confectioner has to meet new conditions just as the follower of any other art has to adjust himself to his surroundings and the demands made upon him. So, in each of the editions of his book since its first publication in 1897, he has endeavored to inform candy makers and confectioners of new methods, new goods, and of new ideas pertaining to their business. An examination of the book before us shows that this plan has been utilized to the fullest extent, for there is revealed a lot of information that is sure to prove of service to those for whom the book was prepared.

In this edition a section on "sugar conservation" has been introduced, which the author believes will prove very valuable to candymakers in aiding them to tide over another possible stringency in the sugar supply. Besides very complete descriptions of the materials and equipment necessary in starting a confectioner's business, the book contains a large amount of information on cost finding, advertising, definitions of candy making terms, the pure food laws of the United States, Canada and Australia, with a synopsis of the standards of each State as they relate to candy, ice cream, etc. A large number of formulas for all kinds of candy specialties are given throughout the book, and there are also sections containing formulas and information relating to the operation of the soda fountain and the manufacture of ice creams and sherbets.

Publications Received

"The Stability of Digitalis Leaf Exthacts" (2nd paper), by Clayre A. Pomeroy and Frederick W. Heyl; "Some Constituents of Viburnum Prunifolium," by Frederick W. Heyl and Harris H. Hopkins. All of these papers appear as contributions from the Chemical Research Laboratory of the Upjohn Company, Kalamazoo, Mich.

"Notes on the Michigan Flora, II," by Oliver Atkins Farwell, Department of Botany, Parke, Davis & Co., Detroit, Mich. Reprint from the 21st Report (1919) of the Michigan Academy of Science.

Semi-Annual Report on Essential Oils, Synthetic Perfumes, etc. Published by Schimmel & Co. (Fritzsche Brothers), Miltitz, near Leipzig, Germany. April-October, 1917.

Scientific and Industrial Bulletin of Roure-Bertrand Fils of Grasse, France. April, 1920 (Series 4, No. 1).

We are in receipt of a copy of the 1920 catalog of the Upjohn Company, makers of fine pharmaceuticals, Kalamazoo, Mich., a book of 224 pages, bound in cloth, which gives a complete list, with net prices, of the various pharmaceuticals, specialties and other products manufactured by this well-known house. The book is carefully indexed, and carries an appendix showing the equivalents of units of the metric system in apothecaries' measure and avoirdupois weight, and equivalents of units of the latter systems in metric terms; a table for making percentage solutions, and a therapeutic handy reference for physician's use.

DRUGGISTS USE WORDS

Druggists have a chance to use many words during their long working hours. Prof. Brander Matthews in *Harper's Magazine* asks: "Where do all our new words come from, both the feeble vocables destined to an early death and the verbal entities lively enough to force themselves into the vocabulary? Who makes them? How are they made? These are questions to which it is often difficult to find an answer. Sometimes we know who made a word, why he made it, where he made it, and when he made it. Huxley manufactured agnostic, from a Greek root, intending it to be a more accurate description of his own attitude toward inherited religious belief than positivist; it was aptly and correctly formed; it was needed; it was immediately adopted both by his friends and his foes; and from English it has made its way into most modern languages.

A score of years ago, during the war in South Africa, we were made familiar with the verb to commandeer, a needless novelty, since the English language already had its exact equivalent in—to requisition, and during the recent war were called upon to accept another new verb—to profiteer, framed on the model of commandeer (perhaps with some memory also of privateer) and almost as unnecessary as commandeer, since we might have brought into general use—the law term—to forestall. But forestall does not suggest all we think we recognize in profiteer; and a new word justifies its creation even when it conveys only a slight difference in meaning.

Pharmacists who desire to conduct drug stores in a progressive and modern manner find that "Drug Trade Weekly," issued every Saturday, is of almost inestimable value to them. They find in the many special feature articles much that helps them in their selling campaigns; in its news columns they are told what druggists in other sections of the country are doing; its market report is written by an expert; and its price list, which gives the weekly fluctuations of the market, is invaluable. "Drug Trade Weekly" is printing now the experiences of druggists whose stores have been used as emergency stations for accident victims. These articles will show how what may easily become a liability can be turned into a worth-while asset.

Professional & Trade Associations

INTERNATIONAL CHEMICAL CONFERENCE

Advantages of Work to be Felt in Every Country and to Form Basis of a Permanent Organization

Some interesting facts concerning the recent meeting of the international Chemical Conference, which held its third session at Rome on June 21 to 25, are set forth in the September issue of the "Journal of Industrial and Engineering Chemistry," from which we take the following:

Professor Charles Moureau, member of the Institute of France, was president, the program beginning with the meeting of the Council of the International Union of Pure and Applied Chemistry, composed of the representatives of the five nations which founded the Union. The Council then considered the adhesion to the Union of seven new countries; namely, Canada, Denmark, Spain, Greece, the Netherlands, Portugal, and Czecho-Slovakia, which were all admitted. Delegates present from Belgium, Denmark, the United States, France, Great Britain, Greece, Italy, the Netherlands, Poland and Czecho-Slovakia then organized the General Assembly, the delegate of the United States being Dr. Charles L. Parsons, secretary of the American Chemical Society, Washington, D. C.

The meetings were held at the headquarters of the Accademia Nazionale dei Lincei, the Corsini Palace, one of the most beautiful in Rome. The meetings were presided over in turn by one of the visiting delegates. Reports on the questions included in the program were presented to the assembly by committees which had been appointed to give them preliminary consideration and to make recommendations.

Organization and Administration

The plan of organization and administration of the International Union of Pure and Applied Chemistry, presented by M. Gerard, of France, was as follows:

To adhere to the Union a country must establish a liaison between its chemical groups by the formation of a national council or federation. The initiative of this organization must be taken by a chemical society, the National Academy, the National Research Council or a similar institution, or by the government.

The Union is governed by the Council composed of delegates from each of the supporting countries, whose executive power is vested in a Bureau. The General Assembly receives reports from the Council, approves the accounts of the past session, adopts the budget for the following session, and considers the questions to be included on the program. Under the Council and an Executive Committee, a permanent staff carries out the program of action as defined by the Bureau. This staff is situated at the headquarters of the Union, and is the pivot of all the organizations connected therewith. The council can also establish permanent committees as they may deem necessary.

An Advisory Committee, divided into sections corresponding to the different scientific and industrial branches, considers in detail the questions figuring in the program of action. The associated nations are represented in each section by delegates, elected for three years. The delegates of each nation constitute a National Committee, whose duties include the study of questions interesting to chemistry from scientific, industrial, and economic points of view.

A meeting of the council, of the permanent committees, of the Advisory Committee, and of the General Assembly is held each year, under the title of the "International Chemical Conference."

The report presented by Professor Lindet, for the Federation Nationale des Associations de Chimie de France, asking that the International Congress be joined to the Union, provides that the International Conference shall every four years be converted into an International Congress of Pure and Applied Chemistry. Elections to the Council, to permanent committees, and to the Advisory Committee shall take place at this time.

The languages for the Congress are English, French and Italian. Communications may be made in another language, provided authors give a translation or an abstract in the official languages. To avoid error in interpretation, communications, votes, resolutions, and official acts, if not originally offered in French, must be translated into that tongue.

To encourage research, the Council may, within the limit of funds granted each year by the Assembly, award prizes and medals to the authors of work considered worthy of such distinction.

Committee Reports

Unification of Analysis—Passing to the report of M. Nicolardot on the unification of chemical analysis, the Conference voted that the international agreement signed at Paris on October 16, 1912, for unification of the presentation of analytical results on food materials, and for the creation in Paris of a permanent international bureau dealing with these matters, be ratified and put in operation as soon as possible.

Chemical Standards—In connection with the report of M. Crismer on an international institute of chemical standards, the Conference ordered the Council to organize a bureau divided into three sections; chemical standards, pure products for research, and technical products.

The Bureau of the Union will provide for the transfer of products from scientists, manufacturers, and dealers to the sections interested.

The United States will organize a branch related to the Union in the same way as the other sections, which will be responsible for carrying out the conditions fixed by the donors. Three sections shall be organized, by Belgium, Great Britain, and France.

In consideration of the importance of the thermochemical contributions, a special subcommittee urged the appointment of a committee to prepare a tentative plan for the establishment of standards from the thermochemical standpoint.

Patents—The report on the determination of the legal value of sealed applications for patents caused debate which ended in the following vote: The International Union of Pure and Applied Chemistry will organize a group of men competent from the technological and judicial point of view to study questions relative to patents. Italy has been charged with preparing a plan of organization. The Conference considers the first questions to be the legal value of sealed applications and the creation of international patents.

Atomic Weights—The examination of the report of W. D. Bancroft, chairman of the Division of Chemistry and Chemical Technology, led the Union to establish an International Committee on Atomic Weights. Messrs. Thorpe, Clarke and Urbain, members of the old committee, were requested to continue the work.

It was decided to inscribe on the order of the day of the next Congress the two following proposals: that the revision of the table of atomic weights be decennial, in order to give time to check the latest determinations; and that the proposal of Dalton of assuming H=1 as the basis of the system be re-adopted.

Tables of Constants—At the suggestion of M. Charles Marie, the Conference decided to connect with the Union the International Committee on Tables of Constants. Its secretary will present each year to the Union a report on the work of the Committee, which after approval, will be transmitted to the International Research Council for final approval.

Physicochemical Symbols—In regard to physicochemical symbols, the Conference, at the request of the Chemical Society, will ask chemical associations and chemical journals of the adhering countries to republish the list approved by the old International Association of Chemical Societies at their last meeting at Brussels, September 23, 1913.

To draw the attention of the respective governments to the importance of the work of the Union, the following resolution was adopted: The Conference of the International Union of Chemistry resolves that all the delegates of the nations belonging to the Union are trying to make known the public value of the work of the Union.

The Bureau will send to the Italian government a verbatim report of the Conference with the request that it be officially transmitted to the governments of the other countries.

The Conference decided to hold its next meeting at Warsaw in 1921. It is stated that the work of the International Union in the course of this Conference has one special value. It forms the basis of a permanent organization, the advantages of which will be felt in every country.

WASHINGTON STATE PH.A. AT TACOMA

At the 31st annual meeting of the Washington State Pharmaceutical Association held at Tacoma, the welcoming address was made by W. P. Bonney, pioneer druggist, who recalled the organization meeting of the society at Olympia in 1890. The response was made by Dayton B. Garrison, secretary of the State board of pharmacy. In his address, President F. R. Robertson, of Spokane, urged strict observance of all provisions of the Harrison narcotic and Volstead prohibition laws, but said that alcohol in the drug business was just as necessary as it is to the household. It enters into the preparation of numerous things, and there was no reason for the druggists being placed in jeopardy by the burdensome details relating to the use of alcohol for legitimate purposes. He said the government should take over the control of alcohol and relieve druggists, as the honest druggist did not care to deal in alcohol. He also criticised the stamp act in its present form as being, in many respects, unjust to druggists.

Donald A. McDonald, district Federal prohibition director, also delivered an address, his subject being "National Prohibition and the Druggist." About thirty new members were elected. On the last day the convention partook of a picnic dinner at American Lake, which was followed by field sports, boating, bathing and dancing. The following officers were elected:

President, A. A. Tozer, Everett; secretary, Prof. A. W. Linton, University of Washington, Seattle; treasurer, Fred D. Marr, Tacoma; district governors, R. L. Hunt, Everett; Guy C. Norton, Tacoma, P. H. Dirstine, Walla Walla, Harry S. Ellwood, Ellensburg, and F. R. Robertson, Spokane; members of the executive board at large, E. Elmer Brown, Spokane, and C. W. Osseward, Seattle.

CINCINNATI MEETING OF THE N. W. D. A.

The tentative programme of the business sessions of the National Wholesale Druggists' Association at the Hotel Gibson, Cincinnati, during the week of Oct. 25 to 29, includes an address of welcome with response by a member of the Association at the opening meeting on Monday, the President's address, and reports of the secretary and treasurer. Invitations from cities desiring to entertain the next convention will be read, and committees appointed. In the afternoon there will be reports by committees on commercial travelers and selling methods, the drug market, memorials of deceased members, and metric weights and measures.

The president's reception will be held on Monday evening, and there will be a joint meeting of the Board of Control and Senior Council following the president's reception.

On Tuesday, Oct. 26, reports will be read by the committees on membership, trade marks, local associations, proprietary goods, and the merchant marine. Credits and collections, a universal accounting system, and the report of the national councillor to the Chamber of Commerce of the United States will be discussed.

On Wednesday, Oct. 27, new members will be elected, and reports presented by the committees on legislation, national drug and chemical alliance, employees' liability and workmen's compensation, and the prize contest.

Reports of committees on fire insurance, transportation, and prevention of adulteration, will be read at Thursday's session, and in the afternoon the election of officers will take place. In the evening the annual banquet will be held.

NATIONAL RESEARCH COUNCIL

The National Research Council, organized under the auspices of the National Academy of Sciences to mobilize the scientific resources of America for work relating to the problems of the war, and placed on a permanent peace time basis by an executive order of the President in 1918, recently elected officers for the year beginning July 1, as follows:

Chairman, H. A. Bumstead, professor of physics, and director of the Sloane physical laboratory, Yale University; 1st vice chairman, C. D. Walcott, president of the National Academy of Sciences and secretary of the Smithsonian Institution, Washington; 2nd vice chairman, Gano Dunn, president of the J. G. White Engineering Corporation, New York; 3rd vice chairman, R. A. Millakan, professor of physics, University of Chicago, Chicago; permanent secretary, Vernon Kellogg, professor of biology, Leland Stanford University, Cal.; treasurer, F. L. Ransome, treasurer of the National Academy of Sciences, Washington, D. C.

The National Research Council recently received an endowment of $5,000,000 from the Carnegie Corporation, part of which is to be expended for the erection of a suitable building in Washington for the joint use of the council and the National Academy of Sciences. Other gifts have been made to it for carrying out specific scientific researches under its direction.

The Tarrant Co. (Texas) Retail Druggists' Association, disbanded at the entrance of the United States in the World War, met at Fort Worth on Sept. 14 and reorganized, electing M. C. Anderson of Fort Worth as president. Other officers chosen were: 1st vice-president, Ed. Mosely; 2nd vice-president, Leslie Coulter, Arlington; 3rd vice-president, J. A. Spinx, Grapevine; treasurer, R. E. Barr, Fort Worth; secretary, S. L. Hassell, Fort Worth. A drive for new members will be held in the near future, and plans will be discussed at the next meeting for securing for Fort Worth the next convention of the Texas Pharmaceutical Association.

Obituaries

MAX JULIUS BREITENBACH

Max Julius Breitenbach, head of M. J. Breitenbach & Company of 53 Warren street, died at the Royal Victoria Hotel, Larchmont, N. Y., after a lingering illness on September 5. Mr. Breitenbach was born in Albany, Ga., on April 13, 1857, and when he came to New York City in 1874 he had two dollars in his pocket and an overwhelming ambition to make good as a pharmacist. He was apprenticed to Schoenrock & Kessler who at that time had two stores, one in Thirty-fourth street and the other in Eighteenth street at the corner of Avenue A. In the Eighteenth street store, young Breitenbach was under the direct supervision of Schoenrock who believed in teaching his apprentice by experience. He gained this knowledge after getting a preliminary education in the public schools of Newark, N. J. He was graduated from the New York College of Pharmacy just before it was moved from the old University building in Washington square.

After working for a time in the drug store kept by Tsheppe & Schur at Sixtieth street and Third avenue, Mr. Breitenbach in 1878 took a position in the drug store of Albert Dung at Canal street and the Bowery. Three years later he was made manager of the store and two years after that, or in 1883, he became the owner. This prospered so that in 1891 he opened another drug store in Madison avenue and met with such success in this that he decided to enter the proprietary business and in 1892 he opened an office at 53 Warren street, which he maintained until his death.

Mr. Breitenbach was a member of several societies and a number of clubs. He was one of the original members of the Freundschaft club and was known as an expert bowler. He had served as one of the trustees of the College of Pharmacy of Columbia University and was the donator of a fund which provides a yearly cash prize of $200 to the student in the third class of the College who shows the highest proficiency in his work. This is known as the Max J. Breitenbach prize. In addition Mr. Breitenbach was connected with many other societies, to all of which he contributed frequently and generously.

He is survived by his wife, who was Miss Jennie Mayer of New York, a son, Julius M. Breitenbach, who also is a graduate of the College of Pharmacy, a daughter, Miss Mollie F. Breitenbach, all of New York City; a sister, Mrs. H. B. Ehrlich of Bainbridge, Ga., and a brother, Walter J. Breitenbach of Demopolis, Ala.

Mr. Breitenbach left an estate worth $1,000,000. His will, which was filed for probate on Sept. 21, makes provision for $100,000 to be given to various charitable organizations, and $80,000 to be divided among near relatives, the remainder of the estate being divided equally among his widow, daughter, and son. The largest bequest to any institution was $25,000 to the New York College of Pharmacy, from which institution he graduated in 1877 and later served for many years as member of its board of trustees.

Dr. Harmon Northrop Morse, professor of chemistry and director of the chemical laboratory at Johns Hopkins University, died at his summer home on Chebeague Island, Me., on Sept. 8. He was born in Cambridge, Vt., in 1848. After his graduation from Amherst College in 1873 he studied at the University of Gottingen and returned to Amherst as assistant in chemistry in 1875. He went to Johns Hopkins as associate professor in 1876.

RICHARD C. STOFER

Richard C. Stofer

Richard C. Stofer, president of the American Drug Manufacturers Association and for fourteen years president of The Norwich Pharmacal Company, died after an illness of two months at the Norwich Memorial Hospital, September 10. Mr. Stofer was born September 11, 1862 in Wilmington, Delaware, and was educated in Philadelphia. In 1882 he entered the employ of Keasbey & Mattison Company, chemical manufacturers, of Ambler, Pennsylvania, leaving them in 1892 to become superintendent and chief chemist of The Norwich Pharmacal Company. Later on he was made vice president, and in 1906 president—a position he held with honor to his company, and credit to himself, until his death.

During his twenty-eight years on the Norwich staff, he was instrumental in the growth of the house from a tiny business occupying a part of an old piano factory, into a group of modern brick and concrete structures, containing many acres of floor space; from a concern comparatively unknown to one enjoying an enviable position among the half-dozen largest of its kind in the United States. In local civic and philanthropic movements, Mr. Stofer occupied a prominent place, serving from time to time as president or director of many organizations. He was also active in church and Masonic circles, a member of the American Chemical Society and of the American Pharmaceutical Association.

In the broader walks of pharmaceutical and industrial life, he was a figure of national prominence, filling among many other offices, the dual role of president, for two years, of the American Drug Manufacturers Association,—an office regarded by many as the highest pharmaceutical honor in the United States,—and as president of Associated Industries of New York State, made up of two thousand or more Empire State industries, representing a capitalization of one and one-half billion dollars and a pay roll of ninety thousand employees.

Among the lesser offices to which he gave much of his energy and wisdom during the last few trying years, have been director and vice president of the American Association of Pharmaceutical Chemists, of which he was one of the founders, member of the executive committee of the National Drug Trades Conference, Director of the State Industrial Safety Council, member of the Advisory Council of the State Industrial Commission through appointment by Governor Whitman, member of the Council of National Defense, national counsellor to the United States Chamber of Commerce, etc.

Mr. Stofer is survived by his wife and two children, a daughter, Helen, and a son, Dr. M. W. Stofer, who is medical director of the company.

Dr. Frederick H. Gerrish, emeritus professor of surgery at Bowdoin College and a former president of the American Academy of Medicine and the American Therapeutic Society, died in Portland, Me., on Sept. 8. He was born in Portland 65 years ago, and was a graduate of Bowdoin College and the Maine Medical School. In the early 70s, he held a professorship at the University of Michigan.

Schools and Colleges

UNIVERSITY OF MICHIGAN

The teaching staff of the college of pharmacy for the year 1920-21 has added two new members; Charles H. Stocking, Ph.C. '07 B.S. (Pharm.) '09, who has been appointed assistant professor of pharmacy to fill the vacancy caused by the resignation of Prof. A. F. Schlichting, who has taken up his new duties as chief of the control laboratories of William R. Warner & Co., St. Louis; and William J. McGill, who has been made instructor in pharmacy.

Prof. Stocking has had many years of experience as a teacher and in retail and manufacturing pharmacy. He first acted as dean of the Kansas City College of Pharmacy, and then became dean of the college of pharmacy of Oklahoma University, a position he filled for a number of years. He then went into the advertising department of Eli Lilly & Co., of Indianapolis, later becoming director of the Era Correspondence Courses in Pharmacy. For the past year he has been production manager of the Drugcraft Co., Ann Arbor.

Mr. McGill, who has been made instructor in pharmacy, received the degree of B.S. (Pharm.) in 1919, and last year held the Frederick Stearns & Co. Research Fellowship. He spent the year on the investigation of digitalis, receiving the M.S. degree in the Graduate school last June.

Prof. C. C. Glover, for many years connected with the college of pharmacy, will continue to act as secretary, and will be in charge of the instruction in pharmacognosy and food and drug analysis. During the past year he made a very interesting study of the distribution of students and graduates of the college, showing that the influence of the school is international in character.

Prof. E. H. Kraus, head of the Mineralogy Department of the University, who was made acting dean of the College of Pharmacy until a new dean is appointed, has for many years been dean of the University of Michigan Summer Session. Because of his splendid executive ability no better man could have been found to meet the emergency. Dean Kraus early in life received practical drug store experience, and has always been greatly interested in the profession of pharmacy.

The college looks forward with great confidence to one of the most prosperous years in its history.

PURDUE UNIVERSITY

Prof. C. O. Lee, professor of pharmacy at Purdue University for the last several years, has resigned and sailed on Sept. 9 from Vancouver, B. C., on the steamer "Empress of Asia" for Shanghai, en route to Wuhu, where he will open a pharmacy in connection with the Wuhu Mission Hospital maintained there by the board of foreign missions of the Methodist Episcopal Church. The work of Prof. Lee at Purdue was greatly appreciated and his loss will be severely felt. His departure for Asia also is a distinct loss to the American Pharmaceutical Association for he took an active part in its work, serving as chairman of the commercial section of the organization.

Frank J. Helbig of Chicago has been employed as instructor in pharmacy. He attended Northwestern University School of Pharmacy for one year and later completed his work at the University of Michigan, receiving the degree of Ph.C. and B.S. (Pharm.).

The 1920-21 school year opened Sept. 8 with a good enrollment of freshmen in the school of pharmacy and practically all of the upper classmen returning to complete their work. Several minor changes have been made in the curriculum of the two year course. The materia medica courses have been rearranged with close attention to proper sequences, and the course in drug assay has been extended to include manufacturing pharmacy. In this work the students will manufacture the more complex pharmaceutical preparations and then subject them to pharmacopoeial assay and tests.

Students entering the two year course this fall will receive the degree of Ph.G. instead of Ph.C. as has been the custom heretofore. This change is in accordance with the recommendation of the American Confrerence of Pharmaceutical Faculties.

Prof. Charles B. Jordan, head of the school of pharmacy, spent the summer renewing his practical experience in the F. E. Curtis Drug Store at Flint, Micn.

SOUTH DAKOTA STATE

One of the interesting features of the State Fair held recently at Huron, S. D., was an exhibit consisting of a collection of poisonous and medicinal plants grown in the garden of the School of Pharmacy, South Dakota State College located at Brookings. The exhibit was shown in the agricultural hall at the fair, and attracted much attention, the garden being widely known throughout the country.

Dr. W. W. Stockberger, physiologist in charge of poisonous plant investigations of the Department of Agriculture, Washington, D. C., who recently visited the college, classed the garden of the school of pharmacy as the only one in the country carrying out the dual program of poisonous and medicinal plant study and culture. He considered it well worth while to take the time to make the trip from Washington to spend several days studying the garden.

ONTARIO

The fall season of the Ontario College of Pharmacy, Toronto, opened on September 9 with 192 students, the largest number in the history of the college and an increase of 48 over last year. Ten of the students were women and a large proportion of the men were returned soldiers. The class was addressed by the Dean, Prof. C. S. Heebner, and Henry Watters of Ottawa, chairman of the Educational Committee of the Council.

The following graduates were presented with diplomas: F. B. Daniels, Chatham; Norman Davies, Chatham; John J. O'Halloran, St. Catharines; John A. Cape, Toronto; M. Pigzerman, Toronto; M. N. Stanley, Lucan, and D'Arcy Thompson, Toronto.

CHANCE FOR PHARMACOLOGIST

The United States Civil Service Commission announce an open competitive examination for pharmacologist. A vacancy in the Public Health Service, Washington, D. C., at $3,000 a year, and vacancies in positions requiring similar qualifications, at this or higher or lower salaries, will be filled from this examination, unless it is found in the interest of the service to fill any vacancy by reinstatement, transfer, or promotion. All citizens of the United States who meet the requirements, both men and women, may enter this examination; appointing officers, however, have the legal right to specify the sex desired in requesting certification of eligibles. For the present vacancies male eligibles are desired. The duties of the appointee will consist of research work in the chemotherapy of tuberculosis.

Educational Department

Devoted to Information, Criticisms and Suggestions on Pharmaceutical Topics of Special Interest to Era Course and Other Students.

Conducted by C. VERNE NICHOLS, Ph.C., B.A., M.S., Director of the Era Course in Pharmacy.

CHEMICAL DIFFICULTIES

Nearly everything which a pharmacist does or which he handles is in some way related to chemistry, and usually closely related. In order to have an intelligent idea of most pharmaceutical processes, the pharmacist must have a clear understanding of the fundamentals of chemistry. Pharmacy is founded on chemistry. All State Board Examinations recognize this fact. But chemistry is not always easy to understand. The Era Course students have more difficulty with the first chemical sections of the Course than with any of the other sections and many allow themselves to be discouraged at this point. This is unfortunate, for the student either drops the idea of becoming a pharmacist, or else he eventually becomes a poorer pharmacist than would otherwise have been the case, on account of his lack of knowledge of chemistry.

To help these students and others interested in chemistry, this Department will discuss each month at least one of the points which offer the most difficulty to the students. Subjects will be discussed in roughly the same order as they come in the Era Course, starting at the beginning of Part 1. The Director will be glad to have students suggest topics that are troubling them. The first of these explanations is published in this issue, and deals with the difference between atoms and molecules.

ATOMS AND MOLECULES

Probably no single point has caused more difficulties and troubles to students undertaking the study of chemistry than proper distinction between atoms and molecules. Many students of the Era Course have had their difficulties in this respect. Yet the distinction between the two is clear, and when once properly understood will never be forgotten.

The elements are those chemical substances which have never been broken down into anything simpler. The smallest particles of these elements which can enter into chemical changes are their atoms. Atoms do not as a rule exist by themselves, though there are some exceptions to this statement. Atoms immediately combine with other atoms of the same kind or with different atoms to produce the larger particles we know as molecules. Sometimes we have two atoms of the same kind combining as in hydrogen where two hydrogen atoms combine to make a hydrogen molecule. In the case of some of the other elements, the molecule of the element contains more than two atoms. Most of the molecules that we have to study, however, are those of compounds and are composed of a varying number of elements of different kinds as, for instance, sodium chloride, common salt, which contains one atom of sodium and one atom of chlorine. Some of the molecules are extremely complex. The morphine molecule can be taken as typical of these and which is so complex that chemists are as yet unable to give its formula with any certainty.

This, in brief, is the distinction between atoms and molecules and must be thoroughly understood for the student to have a clear conception of the principles of chemistry.

ALKALOIDS AND PTOMAINES

The name alkaloid is applied to a number of physiologically active substances occurring in the vegetable kingdom. The compounds of this class have certain characteristics in common. All are physiologically active and with few exceptions, are more or less violently poisonous to the animal organism. One of these exceptions is piperidine, the active principle of pepper. Some are liquids, most are non-volatile solids. Chemically all are basic in character, forming salts with acids, whence the name alkaloid. This is because they are ammonia derivatives, that is, they contain one or more substituted ammonia groups. Many, but not all, are derivatives of pyridine or quinoline. Alkaloids can usually be identified with some certainty by their color reactions with various reagents.

Ptomaines are formed by the decomposition of animal matter. They are so closely similar to the alkaloids in important characteristics that they are frequently spoken of as "animal alkaloids." They are bases, physiologically active and practically all poisonous. They show many characteristic reactions of the alkaloids. Their chemical constitution, so far as known, is unlike that of most alkaloids and is closely related to that of the amino acids, which are products of the hydrolysis of proteins in the ordinary process of digestion.

WHAT IS A CARBOHYDRATE?

A recent answer made to the question was that it was a potato. That had a germ of truth in it for, undoubtedly, a potato is mostly carbohydrate. But the class of carbohydrates is a wide one and includes many compounds. The tendency with most students is to restrict the meaning of the term too much. The old definition was that carbohydrates were substances which contained six or a multiple of six carbon atoms and hydrogen and oxygen in the same proportion as in water. From this came the name carbohydrate or hydrate of carbon. That was an excellent example of poor nomenclature, for the compounds are in no sense hydrates of carbon. But this old definition had to be scrapped, for we now know of many compounds which, from their chemical relations, are obviously carbohydrates, yet they do not contain the specified number of carbon atoms and do not have hydrogen and oxygen in the proportions of two to one. All this makes the matter of formulating a definition which will cover the class rather difficult. The important thing is to remember that in carbohydrates you are dealing with a very large and important class of substances which will well repay the time spent in a further study of them.

CHEMICAL NOMENCLATURE

Some of the Era Course students need cautioning on this score and perhaps the caution will not go amiss with older workers in the field. It is easier to be careless than careful, if you start that way, but once you begin to be particular about it you will find that it is just as easy to be exact. There is plenty of excuse for inexactitude, it is true, for it is only within a decade or so that chemists have been united on any definite scheme of nomenclature and many of the old names and endings still hold over. In cases where the old and new names are used promiscuously, it cannot be called incorrect to use the older, as, for example, soda for sodium carbonate or hydrated lime for calcium hydroxide. Yet in such cases it is well to cultivate the habit of speaking and thinking correctly. But to say soda, when you mean sodium; lime, when you mean calcium carbonate; or ammonia hydrate, when you mean ammonium hydroxide, is inexcusable. The pharmacist should be scrupulously exact in all things; there are too many times when a slight error would be serious, so try to cultivate this habit of exactitude even in what seem to be minor things.

QUESTIONS AND ANSWERS

This number marks the beginning of the new plan announced in the September issue for conducting this department. The questions are printed in this number without answers. Next month's issue will contain the answers to these questions and a new set of questions to be answered the following month. This is to give all who are interested an opportunity to test their knowledge of pharmacy and the related subjects by answering the questions for themselves. Look the list over and see how many of this month's queries you can answer off-hand, then pick out the ones that stuck you and find out what the correct answers are. It will be interesting to see how well you can do, a practise, which, if followed up, will add wonderfully to your store of information without much effort on your part.

Perhaps you will think of some excellent questions for the series. The editor will be very glad to have anyone who will do so, submit questions and answers. Don't make them questions that require long answers but if you run across any nice little catch problems that you think will interest the other readers, send them in to this department.

QUESTIONS FOR OCTOBER

1. What is the difference between oil of wintergreen and methyl salicylate?
2. From what source is cream of tartar obtained?
3. What is the chemical name of urotropin? How is it made?
4. Exactly what is meant by the term "synthetic drugs"?
5. Name the official alkaloids obtained from opium.
6. Why is cod-liver oil such a valuable body-builder?
7. What is the significance of the term "pyro" in the name of a chemical compound?
8. What is the difference between chalk and limestone?
9. How is the strength of a sugar solution determined?
10. Explain why the barometric pressure is lower in damp weather.
11. What is meant by a "cold-pressed" oil and why is it more valuable?
12. What is meant by the term "refractive index"?
13. What is the source of lanolin?
14. Name three substances other than lanolin that are used as bases for ointments.
15. What is the chemical difference between cane sugar and lactose?
16. What is the chemical nature of saccharin?
17. Distinguish between lotions and mixtures and liniments.
18. Give five general processes for the preparation of fluidextracts.
19. What is bone-oil? Name its principal constituent.
20. Write the reaction for the preparation of boric acid from borax.
21. From what sources is iodine obtained?
22. Why does an aqueous solution of potassium iodide become discolored on standing?
23. Why must an aqueous solution of chlorine be kept in the dark if at all?
24. What is a deliquescent substance?
25. What is a hygroscopic substance?
26. What official drugs contain chrysophanic acid or related compounds as active constituents?
27. What substance found in coal tar is chrysophanic acid a derivative of?
28. What dangerous impurity may be present in calomel? How does it get there?
29. How is it tested for?
30. What chemical elements are liquid at ordinary temperature?
31. What is the relation between cresol and carbolic acid?
32. How do cresol and creosote differ?
33. Into what three classes may incompatibilities be divided?
34. What is elutriation?
35. What emulsions are official in the U. S. P. IX?
36. Name the usual emulsifying agents.
37. Suppose you have a stock solution of potassium acetate, 25%. How would you make up 8 ounces of a 12% solution?
38. Why is iodine soluble in a solution of potassium iodide when it is not soluble in water?

EVOLUTION OF THE SHELL FRAME

The tortoise shell eyeglass and spectacle frame was at first a fad. Those affecting it were regarded as the extreme of faddists and were subjected to nearly as much ridicule as the wearer of a monocle and a drooping moustache. A few years ago people who had suffered from the cutting of temples, noses and ears by steel and gold frames and ear pieces began one by one timidly adopting the shell frame because of the greater comfort and lighter weight as compared with metal fittings. Soon the demand became so great that the supply of tortoise shell became inadequate. Now nearly all "shell" rims and ear pieces are made of pyroxylin plastic—a product of cotton.

Few have any idea how this material is manufactured. A high grade tissue paper is made from cotton rags. This tissue paper is given acid baths which make it soluble in camphor and alcohol. It is then mixed with camphor and alcohol, coloring matter is added; it is run between hot rolls and is then made into sheeting of varying thicknesses. To make the imitation tortoise shell, strips and chips of dark brown and amber colored sheeting are compounded together by running them through the rolls again while still in plastic condition—"mottling on the rolls," this is called. The sheets, after undergoing this process, very closely resemble sheets of real tortoise shell.

Manufacturers of optical accessories buy these large sheets and by means of dies cut out the frames, which are finished on polishing wheels. The ear pieces and sometimes the frames themselves are made from rods of the imitation shell. Rods are made by moulding the material after it is mottled on the rolls into cylindrical forms and cutting the rod or "beading" on a lathe. The rods are shaped by manufacturing opticians by first heating them slightly and then bending them as desired.

Women in Pharmacy

CONDUCTED BY EMMA GARY WALLACE

Women Pharmacists and the Franchise

NOW that the last state to ratify woman's suffrage has made the enfranchisement of the women of the entire nation an accomplished fact,—women in pharmacy take on a new and peculiar importance of their own. There are probably from two to three thousand women pharmacists and women students in pharmacy. No exact records are available, but it should not be difficult to compile these and steps should be taken by the different State Boards to do it without delay.

For the sake of being conservative, let us suppose that there are 2,000 of these womeen. Each one of them will touch in her immediate circle of influence, at least five women whom she can bring to see matters as she sees them. This means 10,000 women, plus the original 2,000, or 12,000. Then we have 40,000 to 50,000 retail druggists and the women folks in each family will average at least two of voting age. Again, to be conservative, we will call this 80,000. We will again assume (most conservatively) that each one of these can influence the opinion of one other woman, so we have 160,000 votes, plus the original 12,000, or 172,000.

By concerted action through organized bodies such as the W. O. N. A. R. D., the State pharmaceutical auxiliaries, and the different chapters or local organizations, a large impress could be made upon the State Federations of Women and the National Federation and other similar bodies, such as the Jewish Council of Women, patriotic associations, etc. So it seems safe to assume that the enfranchisement of women could be made to mean the union of about 200,000 votes in behalf of any measure upon which they chose to take a concerted stand.

But again to be conservative, and to allow for differences of opinion, let us cut this number right in two and call it 100,000 votes. Still we have enough to elect a President, put across a Pharmaceutical Corps, or undertake the repealing of oppressive laws which at the present time are a handicap to pharmacists and through them to women and children in the home.

How about it? Who has glimpsed the vision of the possibilities which lie just ahead? Who will be the standard bearers in the new freedom? American womanhood and especially the intelligent womanhood connected with pharmacy, will scarcely be indifferent to her rights and opportunities. Perhaps the gravest danger in the situation is that in the rush and hurry of life, no one will take the time to think the matter out and to assume the leadership necessary to solidify opinion and effort in any one direction. This is a matter which groups of women interested in pharmacy can well discuss seriously.

I would not have you think that now that we have equal suffrage, that the men should sit on one side of the church and the women on the other; or that there should be a great banquet hall with the masculine banqueters at one table and the feminine banqueters at another. No! Equal suffrage spells unity, and while women pharmacists and other women interested in pharmacy will not wish to flock by themselves in their political aspirations and convictions, yet there is a power of work to be done by women, and with women in the proper education for the responsibility of the right use of the ballot.

We are going to need help and guidance, but we are not going to ask our fathers or grandfathers how to vote, in many respects. Women are not nearly as partisan as men. They care less for party than for principle, and once we can show those who have lately gained the ballot for the first time, that it is not necessary for them to vote a straight ticket on this, that, or the other, we will eliminate political hard feelings and differences.

On matters which touch municipal housekeeping, the home, health, and sanitation, there should be no division, and women pharmacists and women in the drug world, must be leaders in this line. There always have been leaders, and there always must be. Let's get busy and do it now!

REGISTERED PHARMACIST IN TWO STATES

One of the promising young pharmacists of Vermont and a graduate of the Massachusetts College of Pharmacy at the May commencement this year, is Miss Anna Marcotte, whose features are reproduced herewith. She was born in Winooski, Vt., attended the Parochial school of that village, and later Mount St. Mary's Academy, Burlington, where she graduated in 1917. In the fall of the same year she entered the University of Vermont, taking the Latin-Scientific course for one year. In 1918, she entered the Massachusetts College of Pharmacy, completing the course during the present year. During her first year at the college of pharmacy she was initiated into the Lambda Kappa Sigma sorority, and in her second year was elected vice-president of the same. Shortly after her graduation she successfully passed the examinations of the Massachusetts and Vermont boards of pharmacy as a registered pharmacist. During her college course, chemistry was her favorite subject, but she is much interested in pharmacy and thinks no other work can equal it. She is now employed by the Marcotte Brothers in her home town.

Miss Anna Marcotte

AROUND THE CIRCUIT

The following officers were elected to serve Boston Chapter, No. 1, W. O. N. A. R. D. for the coming year: Mrs. Gertrude Acheson, president; Mrs. Margaret W. Wentworth, first vice president; Mrs. Anna E. Griffin, second vice president; Mrs. G. H. Dwyer, recording secretary; Mrs. Louise Klitzke, corresponding secretary; Mrs. Gertrude Ernst, treasurer; Mrs. Carrie Brown, auditor; and Mrs. Ella E. Twitchell, Mrs. Harriet F. La Pierre, Mrs. Bertha Sollugub, Mrs. Esther Polan, Mrs. Mary A. Hudson and Mrs. Bertha Morrison, directors. The election took place as usual at the annual spring luncheon.

Mrs. Walter D. Adams of Forney, Texas, is the newly elected president of the Ladies' Auxiliary of the Texas Pharmaceutical Association.

The Ladies' Auxiliary of the Los Angeles Pharmaceutical Association is being organized. Those eligible are the wives, mothers, daughters, and sisters of registered pharmacists or those allied directly with the drug business. The meeting place is the parlor of the Clark Hotel, the first Thursday of every month at 12:30. The ladies plan to have lunch in the public grill and then adjourn to the parlor, where, after a short business session, social pleasures will occupy the afternoon. The dues are $2 annually. Three hostesses chosen in alphabetical order will entertain at each meeting and expenses are divided equally. This, it is expected will not amount to more than $5. The officers for the ensuing year are Mrs. Mae Gunther, president; Mrs. Maude F. Boynton, vice president; Mrs. J. V. Akey, secretary; Mrs. Lewis B. Chase, treasurer.

According to Mrs. Maude Binz Boynton, who kindly prepared this report, there are already forty-five active members and eligible ladies are invited to swell this number.

A very enjoyable luncheon given by the Ladies' Auxiliary and Southern California Druggists' Association to the College of Pharmacy U. S. C. at the Hotel Clark, witnessed an unsually good time. There was a jazz orchestra of which Miss Edith Joseph and Miss Helen Schoomaker formed a part. The college yell

"Araroba, glycyrrhiza,
Hexamethyl, Zantheria,
Hyoscymus arowana, Phytolacca Belladonnae,
Rhei He! Rhei Who!
Pharmacy!'

was frequently heard in merry chorus.

Each year Women's Day is observed with due celebration at the University of Southern California. This year Miss Shallcross represented the College of Pharmacy of the institution. Last year Miss Shallcross distinguished herself by carrying away the championship for the woman's baseball record throw. She also leads in athletics. Miss Helen Schoomaker was the representative of the College of Pharmacy at the luncheon and spoke in behalf of this part of the school. She made an address which gave great satisfaction to her hearers, and proved that Pharmacy's women are bound to be heard from.

The many friends of Mr. and Mrs. J. H. Riemenschneider of Chicago, will grieve with them over the sad accident which robbed them of their well-beloved and only daughter. Margaret, nearly fourteen years of age, and just convalescent from scarlet fever, was riding her bicycle in the vicinity of her North Side home, when she was hit by an automobile and thrown to the ground. She was taken at once to a neighboring hospital and given such treatment as seemed necessary. It was thought that she was only suffering from fright and shock, and after a time she seemed so much better that she was taken home. She had only been home a little while when severe headache developed. The family doctor was called, and in a short time it was found that she was suffering from a fractured skull. Death came swiftly. Funeral services were held at the family home, 544 Wellington Avenue, Aug. 25, the burial taking place in Rosehill Cemetery.

Both Mr. and Mrs. Riemenschneider have been active to the point of great self-sacrifice in behalf of the interests of Chicago drugdom and the profession as a whole, and all sympathize with the grief-stricken parents.

The W. O. N. A. R. D. Convention in St. Louis, held memorial services in honor of the members taken from it by death during the past year. These are Mrs. Charles A. Stover, Chicago Chapter, past president; Mrs. Adolph Kiessling, Chicago Chapter; Mrs. Charles Harding, Cincinnati Chapter; Miss Caroline Meyer, Cincinnati Chapter; Mrs. A. L. Suter, Louisville Chapter; Mrs. A. L. Buzzell, Detroit, Mich.; Mrs. W. B. Cheatham, Yonker, N. Y.

Indianapolis Chapter, No. 20, held a very delightful midsummer meeting at the home of Mrs. Borst, the Chairman of the Entertainment Committee. Mrs. Freund gave a very glowing report of the success of the card party which netted the treasury over fifty dollars.

The President made the following appointments: For representative to the Local Council of Women for next year, Mrs. Stoltz; alternate, Mrs. Harlan Carter; for representative to the Seventh District of the Federation of Clubs, Mrs. Mead; alternate, Mrs. Holmes. Also two delegates and two alternates to the National W. O. N. A. R. D. Convention in St. Louis; one delegate and alternate to the State Federation meeting in October.

Mrs. A. W. Pauley visited for a few days in Indianapolis, and a delightful luncheon was given in her honor by Mrs. Edward Ferger, so that the Indianapolis ladies all might have a chance of meeting her.

Congratulations are extended to Sister Mary Dominic, pharmacist of St. John's Hospital, St. Louis, Mo., who took the state board examinations last October and succeeded in making the highest ranking of any candidate for the year beginning Aug. 1st, 1919, and ending Aug. 1st, 1920. She has been awarded a paid membership to the Missouri Pharmaceutical Association in recognition of this achievement.

Entrance requirements for the College of Pharmacy of the University of Southern California, have been raised. In future, those who wish to take this course will be obliged to show three years of completed high school work, and one year from now the requirements will call for a four year course with graduation. This change, it is believed, will insure a better prepared class of young people entering the profession.

Miss Pine Wagner of Santa Rosa, Cal., is the first woman in the pharmaceutical field there. She is a graduate of Creighton University, of Omaha, Neb., and has had a number of years in practical pharmacy. She is to be associated with J. W. Claypool of Santa Rosa. Her qualifications as a pharmacist, coupled with her charming personality, are sure to endear her to the patrons of the California pharmacy.

The fact that Mrs. W. W. Klore spent a long and delightful vacation in California, while Mr. Klore attended to business; and then later managed the store while her better half disported himself similarly, has attracted the attention of drug journals in Canada. The *Druggists' Weekly* of Toronto, says, "Nothing like combination when it comes to the drug business."

This is very true, and many a druggist owes his prosperity, in part at least, to the disinterested, loyal service and help of his life partner. In these days of serious interests, more women will be likely to step forward and do their part. Why not, if home interests permit?

Queen City Chapter, No. 5, held its August meeting with Mrs. Werner, of Terrace Park. There was a large and interested attendance, and plans were made for the fall and for delegate representation at St. Louis.

Miss Jennie Sumner of West Roxbury, has just moved into a fine new location one block from where she has successfully conducted her drug store for a dozen years past. Miss Sumner was one of the first of the W. O. membership, and her continued success is a source of gratification to her many friends. Her fine new store in the Pinkham Block, will not be hard for her old customers to find.

Boards of Pharmacy

LOUISIANA

Of the twenty-seven applicants who took the examination of the Louisana Board of Pharmacy at the meeting held in New Orleans, the following were successful.

Registered pharmacists: Leo Charles Barthet, New Orleans, Alvin J. DeBlieux, Oakdale; Rene Drone, Jr., Alexandria; John S. Gray, New Orleans; Joseph H. Herbert, Alexandria; Jeannette Clarke Judd, New Orleans; Emanuel J. Labit, New Orleans; Miss Marie Greer McComiskey, New Orleans; Arthur Reynolds, Toomey, New Orleans; William P. Schreiner, New Orleans; John Bert Simeon, New Orleans; P. Armand Viator, New Orleans; Paul C. Weilbaecher, New Orleans; John Martin Dannecker, New Orleans; Nathaniel L. Wisenhant, New Orleans; Leo Ralph Stamm, New Orleans; Mrs. Ulia Stamm, New Orleans; Edward Henry Walsdorf, Jr., New Orleans, and John C. Coleman, Rosewall, Ga.

The following were granted certificates as qualified assistant pharmacists: Gustave Miller Blanchet, New Orleans; Frank Baxter, Ernest Anthony Hydel, Carlos M. Mainegra, Murlind Rosengrant, and Horace D. Truxille, all of New Orleans.

Registered by reciprocity: Ernest Samuel Jamison, Eunice, registered in Georgia; Lonnie Maddry Minden, John Clarke Warren, New Orleans, both registered in Arkansas; Martin Myron, New Orleans; Charles C. Kette, Vicksburg, Miss.; R. E. Fadeley, New Orleans, all registered in Mississippi; William S. Bridges, Minden, registered in Maryland; and Charles F. Echols, Shreveport, registered in Georgia.

Certificates were issued to thirty-six applicants as registered apprentices. The next examination of the board will be held at Tulane University, New Orleans, on Nov. 19 and 20.

OHIO

The Ohio Board of Pharmacy conducted examinations at the Ohio State University, Columbus, on June 21-23, 89 applicants for pharmacists' certificates and 59 applicants of assistant pharmacists' certificates being present. The following were granted certificates:

Pharmacists: Joseph Bartkus, Elias M. Rogoff, Jacob P. Hagen, William A. Rothenberg, Sophia M. Grabski, Samuel H. Rosen, Cleveland; Henry C. George, Lakewood; Frank J. Riesser, Herbert C. Meyer, Ashton Collier, Bernice Koble, Merritt J. Burke, Charles B. Davis, Walter C. Elbert, Edward W. Kistner, Harry Beneshowit, Elmer H. Biedenkapp, Cincinnati; James A. Harrigan, Reading; Frederick V. Igler, Glendale; Clarence D. Lees, Wilford E. Thaxton, Joseph Kwis, Toledo; Leo V. Coble, Harold W. Penfield, Akron; Paul O. Ashton, John Spencer Smith, Youngstown; Charles C. Watson, Henry Duckwald, Claude C. Moore, Louis E. DeLucia, Columbus; J. Frederick Mear, East Liverpool; Max W. Haverman, New Philadelphia; Lloyd B. Ernsberger, Celina; Stuart H. Peters, Mt. Gilead; Theodore Herr, Napoleon; Howard L. Harper, Jamestown; Ralph A. Schindler, Coldwater; Leonard Mounts, Morrow; Harry W. Pace, Marion; J. Earl Hoffman, Mansfield; Ralph W. Duvall, Bellaire; J. Arthur Casper, Canton; Charles D. McCleery, Lancaster; Otto P. Hampshire, Wauseon; Cloyd H. Prillaman, Delphos; Robert H. Lohmire, Sidney; Lyell E. Frisbie, Prairie Depot; Otto P. Gray, Rushmore; Herbert S. Kinsey, Crestline; Frederick A. Schob, Marietta; Roy L. Wentz, Mansfield; Robert W. Ralston, McConnelsville; John J. Enright, Urbana; Elliott W. Seeley, Lodi; Minnie E. Monrad, Portsmouth; C. Vincent Krout, Tiffin; Waldo R. Heiby, Ohio City; Eleanor A. Haecker, Elyria; Mary Haverfield, Pleasant City; Clarence K. Beck, Albion, Ind.; Jordan T. Olcott, Aurora, Ind.; William F. Sudro, Fargo, N. D.; Emmett H. Baker, Uhrichsville; James L. Hood, Ada.

Assistant Pharmacists: Walter J. Hoffman, Herbert C. Pick, Melba L. Monfort, George D. Bryant, James A. Mahoney, Charles Posner, Margaret M. Higley, Robert P. Stadler, Edward H. Plogman, Jr., A. Z. Waichunas, John H. Westerman, Cincinnati; James J. Boyle, Isidore Friedman, Leo Gutentag, Harry L. Alperin, Henry H. Persky, Harry G. Paskind, Edwin J. Malinoski, Albert P. Metzger, Cleveland; David H. Creamer, Hattie L. Durand, Luther H. Grushon, Harry Steinmetz, Oscar L. Coddington, Columbus; Paul F. Rupp, Harry W. Haynes, Eugene J. Kramer, Toledo; Gaylord J. Schutts, Allan R. Forsyth, Youngstown; John M. Cornelius, Dayton; Clyde J. Fetzer, Akron; Robert D. Smith, Chillicothe; David J. Hopkins, Canton; John Roth, Lorian; Harold H. Brown, Oakwood, Edwin A. Scherer, Greenville; Abraham L. Berger, Steubenville; Fallie C. Price, Zanesville; Malcolm C. Roller, Pomeroy; Albert T. Middendorf, Ft. Loramie, Christine M. Farina, New Richmond; Harold T. Flood, Portsmouth; George W. Arensburg, Newark; Ernest P. Reidenbach, Van Wert; Glenn Barkhurst, Rhodesdale; Joseph O. Gorrell, Payne; Kathryn E. Birk, Bucyrus; Harry V. Dunathan, St. Marys.

The highest grades obtained in the examinations were: Pharmacist, William F. Sudro, Fargo, N. D., 91.8 per cent; assistant pharmacist, Harry W. Haynes, Toledo, 92.6 per cent.

Pharmacist certificates were granted to the following upon their registration in another state: George F. Craig, Cleveland, from Kentucky; John J. Griffin, Cleveland, from Georgia; Isidore Kahan, Cleveland, from Michigan; Harold M. Carrier, Cleveland from Michigan; Mrs. Myra Willson Collon, Arthur C. Collom, and Samuel B. Berman, all of Cleveland, from Pennsylvania.

KANSAS

J. F. Tilford, of Wichita was chosen president of the Kansas State Board of Pharmacy on Thursday, August 16. Other officials elected were: Edward Dorsey, Ottawa, secretary; F. W. Ekstrand, Salina, treasurer; and R. B. Bird, Winfield, and M. Noll, Atchison of the finance committee.

Although there is a shortage of pharmacists in the state, the state board is emphatic in its determination to raise the standard of the profession in Kansas. Of late it has been relatively easy to get certificates in this line, because many applicants, who have secured diplomas, are not even graduates of high schools. But the board has decided to appeal to the next legislature for assistance in raising the standard. In order not to cause any injustice to present certificate holders, such a provision would probably not go into effect until 1923. The change in the qualification in applicants for pharmacists certificates, is said by members to be absolutely necessary if Kansas expects to retain its rank with other states and be recognized by the National Association of Pharmacists.

CHRISTMAS RAZOR SETS

The AutoStrop Safety Razor Company has placed on the market two attractive sets. These are adaptable for the holiday season and gift purposes, although they are so practical that they will be sellers all year round.

One is a sterling silver set which consists of a case of genuine black or brown calf skin, velvet lined; sterling silver autostrop razor and sterling silver blade box, twelve blades and selected strop.

The other is a silver-plated set which consists of silver plated flat topped case, engine turned with ribbon pattern, velvet lined; silver plated AutoStrop razor, twelve blades in silver plated box and selected leather strop.

The AutoStrop Safety Razor Company, with its large amount of publicity throughout the year, the major portion of which, however, will run between Sept. 15th and Christmas, is doing everything it can to help dealers to sell more autostrop razors. The attractiveness of the sets themselves help the publicity materially and it is believed that wherever they are shown they create a demand during the holiday season.

PROGRESS IN ANTITOXIN MANUFACTURE

How many physicians of to-day stop to consider the advantages they enjoy, as compared with their predecessors of comparatively few years ago? Diphtheria Antitoxin affords a striking example of the progress made. When the Mulford Laboratories made the first antitoxin that was produced commercially in this country, shortly after von Behring's discovery in 1890-91, the industry was still in its infancy. At that time no process had been developed for concentrating or precipitating the globulin from the serum, so that whole serum was used. An average potency of 100 units per Cc. was considered very fair.

In those days they had not learned to use large doses, such as 10,000 units, and it is well they had not, since a 10,000 unit dose of serum, including 25% excess for deterioration, would have required an injection of 125 Cc. in volume, of serum measuring 100 units per Cc. in potency. Another thing, in those early days ordinary one-ounce glass-stoppered bottles were used as containers for antitoxin. It seems almost unbelievable that such were the conditions less than thirty years ago, now that we have become accustomed to the refined antitoxin of to-day.

But, step by step methods for producing and testing antitoxin were improved, there was an evolution in the containers, and one problem after another has been solved until now you can get the Mulford Antitoxin so highly refined and concentrated that it contains 3,000 units and more per Cc. This permits of a 10,000 unit dose being administered in approximately 4 Cc. of volume, even allowing the same amount of excess for deterioration. Furthermore, the antitoxin is contained in a syringe container, with a sterile needle, all ready for immediate use, and the whole thing is so convenient that the physician seldom stops to consider its advantages. Doubtless the next generation will see equally striking advances in many others of our Biological Products.

MUNICIPAL ADVERTISING PAYS

Knowing that advertising is the life of trade to-day and that without it most corporations would find their business falling off, the St. Louis Chamber of Commerce is making a liberal use of printers' ink in boosting the city of St. Louis as a manufacturing center. In the advertising columns of this issue of the Era will be found a page announcement by the St. Louis Chamber of Commerce in which that progressive body calls attention to the advantages offered by the Missouri municipality to many manufacturers. The advertisement also calls attention to the sixteen industries which the city is seeking.

In addition to using space in class journals such as the Era, the St. Louis Chamber of Commerce issues a handsome booklet which it calls "St. Louis as a Manufacturing Center." The publication is profusely illustrated and contains in its thirty-two pages much valuable information regarding the city. After giving nineteen reasons why it merits consideration as the site for a factory, the booklet says: "This summary of the natural advantages of St. Louis as a wide-awake industrial community shows that it has central location, transportation facilities, established markets, accessibility to basic materals and nearness to the great food-producing empire of the Middle West, to make it the dominant production and distribution center of the United States."

DONATIONS FROM PHARMACISTS SOLICITED

George T. Riefflin, well-known for his activities in connection with the New York State Pharmaceutical Association, has been appointed chairman of a special committee to solicit donations from pharmacists for the relief of the widespread suffering and distress in the war stricken countries of Central Europe. The material solicited is to consist of bandages, hospital supplies, absorbent cotton and may include a few cakes of soap. Mr. Riefflin extends his thanks in advance to all those who will favor him with an early compliance to his solicitation, by addressing the package via parcel post to him, 41 John street, New York City.

Pharmacists who desire to conduct drug stores in a progressive and modern manner find that "Drug Trade Weekly," issued every Saturday, is of almost inestimable value to them. They find in the many special feature articles much that helps them in their selling campaigns; in its news columns they are told what druggists in other sections of the country are doing; its market report is written by an expert; and its price list, which gives the weekly fluctuations of the market, is invaluable. "Drug Trade Weekly" is printing now the experiences of druggists whose stores have been used as emergency stations for accident victims. These articles will show how what may easily become a liability can be turned into a worth-while asset.

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Bequests to Education

The bequest of $25,000 to the New York College of Pharmacy by the late Max J. Breitenbach, whose death occurred recently, emphasizes the fact that at least one graduate in pharmacy appreciated what a technical education did for him. As a practical expression of gratitude and indebtedness, the Breitenbach bequest stands among the few examples of gifts to colleges of pharmacy from graduates who reached financial successes primarily through the practice of pharmacy and its related business lines. As the world goes, in the struggle for success, many graduates in pharmacy seem to forget the part that college training played in their own progress, for educational attainments can never be adequately appraised by monetary standards. Yet the dissemination of pharmaceutical knowledge is essential if the profession is to make any general progress, and as a means to this end, the college of pharmacy stands pre-eminent. Every instrumentality of this kind deserves the support of all good pharmacists. The Breitenbach bequest is noteworthy as coming from a pharmacist who in life had the college needs at heart and provided a place for it in his benefactions.

The N. A. R. D. at St. Louis

The 22nd annual convention of the National Association of Retail Druggists, whose sessions were in progress at St. Louis as the October number of the ERA was passing through the press, completed its deliberations with a force and unanimity of sentiment which speaks well for the continuation of that organization. All reports indicate that the meeting was the largest in point of attendance and one of the most successful the association has ever held, while the entertainment features were an innovation and decidedly characteristic of the inland metropolis where the convention was held. It is safe to say that every druggist in attendance enjoyed his stay in St. Louis and that no one ever experienced more thrills than came his way in the entertainment furnished by the local committees.

The resolutions adopted at the meeting, which appear on another page of this issue, represent the real results of the convention. In these the druggists declare their determination to work for the repeal of the tax imposed upon soda water and toilet articles and to oppose the adoption of any form of tax upon business which is not uniformly and equitably applied to manufacturers, wholesalers and dealers of every line of business. Much discussion, as was to have been expected, was devoted to the narcotic and liquor problems, one resolution relating to the last-named subject setting forth a petition to the Revision Committee to establish standards for alcoholic liquors in the forthcoming Pharmacopoeia. Opposition to the enactment of all compulsory health insurance laws by the several States or by Congress was registered, and the association will continue its efforts to secure the passage of a law legalizing price maintenance.

Most of the resolutions pertain to commercial questions, but it is noticeable that the establishment of a pharmacy division in the National Museum at Washington was commended, while considerable attention was paid to such subjects as the status of pharmacists in the Army and Navy, representation of the retail druggists on the revision committee of the U.S.P., and consolidation of boards of pharmacy, all of which are more or less closely related to the practice of professional pharmacy.

Consolidation of Pharmacy Schools

The announcement of the amalgamation of the Cincinnati and Queen City colleges of pharmacy, both located in Cincinnati, coming as it does so soon after the actual merger of the Maryland College of Pharmacy as a full-fledged unit of the University of Maryland, a century-old landmark of Baltimore, gives added emphasis to the remarkable reorganization, particularly in the line of medical education, that has been going on during the last few years. It is only a few years since it was found desirable to consolidate the department of pharmacy of the Medico-Chirurgical College with the Philadelphia College of Pharmacy, and the department of pharmacy of Northwestern University with the Chicago College of Pharmacy, in each case the merger reducing the overhead expense for the consolidated institution, and providing additional teachers and laboratories with which to carry on the courses of instruction.

The Maryland College of Pharmacy merger emphasizes still another phase in the trend toward university methods and system of instruction. The experience of educators in all walks of life during the last twenty-five years, especially in the effort that relates to technical instruction, goes to show that specialization in any branch calls for an equipment and teaching staff that none but a liberally endowed or State supported institution can furnish, hence the drift toward the university. No one while noting this obvious trend can speak lightly of the great work independent schools of pharmacy have done in the past, for these have carried forward the torch of progress under circumstances often adverse, yet always creditable.

But in a period which appraises educational advances in terms of experimental research and laboratory standards, pharmacy like many other professions has sought the sheltering wing of the State and claimed a share in its appropriations and prestige. Thus linked up with the university, the students of the college of pharmacy can share the advantages and enjoy the spirit of the greater institution, while the school itself is in a better position to offer its privileges to all persons who are qualified for admission. The amalgamation of the Cincinnati schools and the merger of the Maryland College of Pharmacy with the State University are accomplishments which seem to indicate the direction pharmacy is taking to attain the educational level of some of the other professions.

Levulose Syrup in Pharmacy

The shortage of crystallized sugar has stimulated interest in the search for substitutes for the widely used cane product. Of the substances which have filled a certain need are glucose, invert sugar, as the mixture of dextrose and fructose has been commercially called; honey and maltose syrup, but none of them has met the degree of sweetness ordinarily demanded by those who consume cane sugar. Levulose, fructose, or fruit sugar, is the sweetest known sugar, the statement being often made that it is from 30 to 50 per cent sweeter than sucrose. It has been suggested that if this sugar could be obtained in large enough quantities and at low enough cost, it would go a long way toward supplying the hiatus caused by the scarcity of cane sugar.

Our attention is called to this subject in an article in a recent number of *Science*, written by J. J. Willaman, of the University of Minnesota, who states that a levulose syrup would be a distinct asset in the present commerce of sweet products. Levulose occurs in practically all fruits, is abundant in honey, and is found in appreciable amounts in sorghum syrup. But, according to Mr. Willaman, its most conspicuous occurrence in plants is in the form of inulin in the tubers of the Jerusalem artichoke and in the bulbs of the dahlia. Inulin is a polysaccharide somewhat resembling starch, but whereas starch yields glucose on hydrolysis with acid, as in the manufacture of corn syrup, inulin yields levulose. The inulin is present to the extent of 12 to 14 per cent of the artichoke tuber, and as this plant gives very large yields to the acre, the possible yield of sugar from artichokes would compare very favorably with that of other sugar crops.

But the unknown factor in the proposition, according to the author, is the technology of manufacture. Practically nothing is known about the isolation of inulin and its hydrolysis to levulose on the commercial scale. Likewise the cost of production is unknown. If these problems could be solved—but they still await solution. It is argued that even if it did cost more, it is so much sweeter than any of the present sugars, that it would be worth considerably more, so that the greater cost would not necessarily be a handicap. Here then is a practical problem awaiting solution, the accomplishment of which brings in its train many possibilities of usefulness. Levulose syrup would probably not be used alone as a syrup, but would be employed for blending with other syrups to enhance their sweetness. In the manufacture of soft drinks and confections levulose could very largely replace sucrose, and thus increase the amount of the sugar that would be available as dry sugar. Indeed, such a product might attain the dignity of recognition in the Pharmacopoeia, for its use in pharmacy is not difficult to anticipate.

New Botanical Drugs Sought

Scientists Will Explore Part of Tropical America in Hunt for New Specimens—To Start in January

By A STAFF CORRESPONDENT

Dr. H. H. Rusby

SOUTH AMERICA has long held a well deserved eminence as a source of useful drugs, dating back to the early days of Spanish and Portuguese occupation. Quinine and cocaine always will be associated with the continent to the south of us, as will many other well known medicinals. From Colombia and Venezuela on the north to Chili and Argentina at the south, the continent has proved unusually rich in medicinals, though as would be expected, the tropical and semi-tropical regions of Brazil, Venezuela and Colombia have been most fruitful. And now South America is especially prominent in the eyes of all interested in botanical drugs.

If the war brought home to us the large part played in medicine by the numerous synthetic drugs it also demonstrated that they could never displace the natural products. So much progress had been made in the manufacture and application of the syntheticals in the years preceding the war that extravagant claims as to their future advances were made and believed. Their limitations are better realized now, but their advantages in the way of standardization and exact dosage have demonstrated the necessity for a more complete investigation of the botanical drugs. This need for investigation includes not only the botanicals as they reach the market, but also their sources, the conditions under which they are gathered and cured and the effect of climatic conditions on their content of physiologically active principles. There also is always the possibility of discovering new and better drugs.

To Start in January

With the scientific current running in this direction it was natural to think of South America which has already produced so many valuable products, but whose possibilities have by no means been exhausted. Dr. H. H. Rusby, Dean of the College of Pharmacy of Columbia University and well known as an expert on botanical drugs and an explorer of South America, is to head another expedition to that country and probably will start in January.

This will be Dr. Rusby's fifth trip. His first was in 1885, when he started on a two-year expedition to the Amazon basin in search of medicinal plants. In 1895 and 1896 he explored the Orinoco delta for a colonization company, acting as a botanical expert for the expedition and bringing back more than 17,000 specimens of tropical plants. One of the other expeditions was a search for new sources of rubber supplies, while another was a trip into southern Colombia to study quinine sources.

These trips left untouched a large area of little explored territory which included portions of southern Venezuela, eastern Colombia and Equador and sections of the western part of Brazil. The

In the center of the plains of Titicaca, which are partly in Peru and partly in Bolivia, is Lake Titicaca which contains many islands and several peninsulas abut on its waters. One of the most picturesque spots in the whole region is the Island of the Sun and the Temple of the Sun, Bolivia.

idea of exploring this territory and investigating its flora obsessed Dr. Rusby for some time, and he recently took up the matter of an expedition with the H. K. Mulford Company, appealing to them for cooperation in carrying out the undertaking. Dr. Rusby's original plan, as submitted to Milton Campbell, president of the Mulford Company, had included provisions for commercial adjuncts which would repay the expenses of exploration. The Mulford Company considered the proposition favorably, but preferred to eliminate all commercial considerations, making the exploration a purely scientific one. Their support then is given purely as a contribution to science and medicine.

This cooperation and the suggestions made by the scientific department of the Company, resulted in considerably extending the scope which had first been planned for the work. It was pointed out that in addition to the study of the botanicals of the region, there were a number of other very interesting fields which might properly and profitably be investigated by such an expedition. For example, a number of the endemic diseases of the tropics are very imperfectly known and a careful study of them would not only prove of scientific value, but might possibly have a practical importance from the discovery of curative methods applicable to these and similar diseases.

Will Study Insect-Carried Diseases

Another similar matter which was considered worthy of investigation was the transmission of tropical diseases by insect agency. Every explorer in tropical or semi-tropical countries has experienced the insect pest and they regard it as one of the greatest obstacles to their work. So in addition to the study of the insects as carriers of disease, there will be a systematic study of methods of repelling or destroying these insects. The officials of the Federal Insecticide and Fungicide Board have prepared a comprehensive series of formulas of substances which they feel might prove useful in this direction. Supplies of these substances will be taken and systematically tested, under conditions which will definitely prove their value or lack of usefulness.

Another matter of considerable interest to Dr. Rusby will be a study of the fishes of the Amazon basin. On previous expeditions Dr. Rusby had been greatly impressed by the immense variety of fishes existing in the rivers of this region. Many of these have peculiar characteristics and habits and are unknown in other sections, and it was determined to carry materials on this expedition for extensive collections of this fauna. It is hoped that the University of Indiana will be represented upon the expedition by an ichthyologist who will take charge of this phase of the work. Arrangements have been made in this country with Doctors David Starr Jordan and C. H. Eigenmann, who are among the leading authorities on the subject, to assist in the investigation of material collected.

Another important subject is that of oil-seeds, of which there are a great variety in the forests of tropical America. Many of these are practically unknown and some are undoubtedly of great practical value as well as possessing scientific interest. It is hoped to collect large samples of all of the important varieties, possibly from 50 to 100 pounds or more of each, which will be shipped home for the expression and study of their oils. The research in this country is to be undertaken by Professor Augustus H. Gill of the Massachusetts Institute of Technology, who is an authority on fixed oils.

The region also is rich in plants containing essential oils, many of which may be valuable, and samples of these will be sent to Dr. Kremers of the University of Wisconsin for investigation. Snakes and other reptiles will be collected when possible and sent to this country for study. This will be undertaken partly by Professor Ruthven of the University of Michigan and partly by the American Museum of Natural History in New York City. It is hoped that the Bureau of Entomology may detail one of its representatives to accompany the party in order to make a study of the insects of the region and particularly those which are destructive to timber and other vegetation. Knowledge of this sort may readily become of the greatest value, since most of our worst insect pests have been introduced from foreign countries through the medium of imported plants or seeds.

Seeks Definite Knowledge

These subjects are all secondary to the special work of Dr. Rusby himself, which will be mainly in connection with medicinal plants and drugs. Dr. Rusby's connection with the Governmental Bureau of Drug Inspection and with the New York Botanical Garden as well as other experience in botanicals, has impressed him with the number of economic products of this region of which there are no authentic museum specimens in existence. The knowledge in regard to the origin and methods of collection of many of these drugs is very imperfect and it is also suspected that in many cases there are similar drugs native to the same locality which are perhaps superior to those which are in present use. Dr. Rusby hopes particularly to encounter specimens of tolu, ipecac of both species, simaruba, guaiac, copaiba of several species, manaca, guarana, muira-puama, caroba, several resins, coto and para-coto and cocillana. As a side light, Dr. Rusby hopes to get some information on the manufacture and composition of the primitive arrow poisons of which several varieties are in use in this section of South America. Rubber specimens too will be much sought after.

The expedition will be elaborately provided with equipment for handling this work. Dr. Rusby himself will undertake the botanical classification and description of all specimens. They will then be carefully packed and shipped to this country, where the various phases of their nature and usefulness will be carefully studied by experts. Dr. Ballard, School of Pharmacy, Columbia University, will pursue the microscopic study as will also Professors Youngken of Philadelphia, Schneider of Nebraska, Newcomb of Minnesota and others. The chemistry of these plants will be studied by Doctors Arny, Jordan, Purdue, Sayre and Haverhill, while the physiological and medicinal properties will be gone into thoroughly in the principal medical schools of the country.

The Proposed Route

The expedition plans to enter South America by way of Colombia, and the real start will be made from Villavicencio, which is southeast of Bogota in the eastern foothills of the Andes. From there they will proceed south along the border of the Andes to Calamar, a distance of several hundred miles. It is planned to make a number of side trips into various valleys and canyons running up into the mountains and make collections there. At Calamar land travel will be abandoned and the expedition will begin the ascent of the Uaupes River, which is one of the tributaries of the Rio Negro, itself a main tributary of the Amazon. This section of the trip will be made through a region which is very little known. What little knowledge is available is owed to Dr. Hamilton Rice, who explored the river in the face of great difficulties and hardships, from its source to the point where it flows into the Rio Negro.

After reaching the Rio Negro the party will continue travel by water, following that river down to the Amazon and the Amazon itself to the mouth of the Madeira. If the schedule is followed out without accident, this point will be reached early in July. Owing to the peculiarities of the climate there, they will thus avoid the rainy season to the north of the Amazon, while at the same time the dry season will be just beginning in the territory south of the river. The party will immediately commence the ascent of the Rio Madeira, which is the largest southern tributary of the Amazon. The trip may be made by steamers to the lowest cataract, a distance of several hundred miles. From this point a railroad runs from below the lowest cataract to above the highest, while from there small steamers ply to points well toward the source of its principal tributaries, the Madre de Dios, Beni and Mamore. As far as time allows, various points on all these rivers will be visited.

The expedition will proceed by raft and canoe, following the Beni or Mamore as far as possible into the eastern Andes. Leaving the river, the Andes will be crossed by mule train, emerging at La Paz. At La Paz the party will be in the region surrounding Lake Titicaca. This somewhat remarkable lake is well up in the Andes, two miles above sea level and is 115 miles in length. Extending into both Bolivia and Peru, it offers an easy means of communication in a section where roads are few and bad and railroads few. The surrounding country is chiefly known for its mineral resources of tin and silver but has many points of interest from the botanical and entomologist point of view.

La Paz is something of a railroad center and from there the expedition can reach the coast at Mollendo in Peru or Arica or Antofagasta in Chili, the route to Arica being most direct. From any of these points travellers can embark for the trip north. Should there be sufficient time, a stop may be made in Colombia on the way up the coast, where it is hoped that some important drugs that are found on the western slopes of the Andes can be collected.

Equipping the Exposition

As already stated, Dr. Rusby is an experienced South American explorer and the expedition will be thoroughly equipped. The outfit of camp equipment as well as other supplies has been carefully selected. One of the most important questions in exploration work is that of food supply. Dr. Rusby is well aware that it would be entirely possible to subsist on the natural food supplies of the country. But the time of the expedition is limited and it is felt that every possible moment should be devoted to scientific collections. For this reason a food supply sufficient for the entire time will be carried into the wilderness. This food supply must necessarily be made up of compact materials as there is a period of six months to be provided for. It will be wholesome and agreeable, since Dr. Rusby learned from experience that many, if not most, of the ills from which explorers suffer have their basis in poor nutrition. Naturally an ample supply of medicines will be provided, since no one can foresee what emergencies may arise and there must be a large assortment. As usual in any tropical expedition, quinine as the bimuriate will be the principal item. The scourge of the white man in the tropics is malarial fever but it is not to be feared if quinine is used freely; in fact it may safely be said that you cannot become inoculated with it if the blood contains a sufficient amount of quinine.

Two nautical miles above the sea level in Peru is Lake Titicaca, a body of water more than 115 miles in length and on which is transported in native boats much of the produce of the surrounding country.

The party necessarily will be well armed, primarily for securing game, but also to guard against possible dangers. The country is a wild one, infested by several kinds of dangerous wild beasts and a very large number of poisonous snakes. While not much danger is to be apprehended from the natives, it must be remembered that many of the tribes of this region are entirely uncivilized and are likely to adopt an attitude of hostility under some conditions. The best way of avoiding difficulties with these tribes is to be ready for trouble.

May Take Movies

Moving picture participation in the enterprise has been discussed and it is probable that the party will be accompanied by one or more camera men, who should find plenty of material for pictures of scientific and popular interest. The details of this feature have not yet been settled.

Unfortunately the party will be unable to undertake another phase of investigation that was suggested. The region traversed is probably rich in paleontological material but the time required for the collection of such specimens and the problem of their transportation forced a decision against entering this field of work.

On the return, the Pacific coast should be reached late in 1921 and even if the side trip into Colombia is made the expedition may be expected back in New York before the Spring of 1922.

Domestic Oil of Rose?

IT HAS no doubt been a cause for wonderment to many residents of the Pacific States that oil of rose is not produced commercially in this part of the United States. The Pacific Coast is renowned for its roses, and from Southern California to the Puget Sound this queen of flowers is found in magnificent profusion and of superb beauty. Portland, City of Roses, is proud to say that of all the roses of the Coast, hers are the finest.

Yet from the countless millions of rose blossoms which every year by their beauty and fragrance play no small part in making the Pacific Coast states so attractive, no oil is obtained. Why should not that delightful essence be distilled, and its pleasant properties made use of long after the beautiful petals have faded and gone the way of all living things? The principal reason is that the world's supply of otto of rose, one of the most expensive of the volatile oils, is produced in countries in which men and women will sell their time for a small fraction of what American labor demands. The Bureau of Plant Industry of the United States Department of Agriculture has conducted extensive experiments in the cultivation of roses and the distillation of the oil. The tests have included many different varieties of roses, and have been carried out at experiment stations in various parts of the country. The conclusion reached by the Bureau is that while oil of rose of high quality can be produced in the United States, it is not possible to make the industry profitable. The harvesting of the roses requires an immense amount of hand labor, and this labor must be available just at the time the blossoms are ready for gathering, otherwise they deteriorate rapidly.

Although some oil of rose is produced near Leipsic, Germany, and a considerable quantity in Southern France, the greater part of the world's supply comes from Bulgaria. The rose region of Bulgaria is about 125 miles in length and seven to fifteen miles in width, lying under the southern slope of the main Balkan range. This district is watered by numerous small streams which are fed by the melting snows of the range above. The small farms averaging eighteen acres in size, are owned by peasant proprietors, and are carefully cultivated, although by primitive methods. In some localities, except for space devoted to necessary food crops, all arable land is given over to rose culture.

Two kinds of roses are cultivated in Bulgaria, the red *Rosa damascena* and the white *Rosa Moschata*. The white rose yields only about one-half as much oil as the red, but has the advantage of being able to thrive in places where the red could not. On the average, 3,000 pounds of roses are required to yield one pound of oil; about 200 rose blooms constitute a pound. It is estimated that one drop of the precious oil represents the fragrance of about thirty roses. The yield is best if the flowers are gathered when the weather is cool and cloudy, because under these conditions there is less loss of oil by volatilization than in hot weather. For the same reason the roses are collected very early in the morning and taken to the distillery as quickly as possible. The collection is made principally by women.

Much of the oil is distilled in very primitive apparatus owned and operated by the peasant farmers. The still is usually set up near one of the many mountain streams which has the running water for cooling purposes. In the larger towns there are now some distilling establishments with modern equipment. There is much need of a school where modern methods of cultivation and of recovery of the oil can be taught. The average annual production of Bulgarian rose oil is from three to four thousand kilograms. At the season of rose harvest the rose districts are fairylands of beauty. The entire population of the community is busy in caring for the all-important crop. Women and children are up very early to gather the blossoms before the sun has dissipated their essence, while the men have charge of the distillation process. The rush of work does not prevent the young men and women from assembling in the evening in the villages to dance the national dance.

Like many another volatile oil, otto of rose has an interesting story all its own. It is well for the pharmacist to recall, if the wholesale price of a little bottle of "Kazanlik" oil of rose seems very high, that the production of even an ounce of it represents an immense amount of labor on a little farm on the southern slopes of the Balkans and that a few ounces of the oil may be the principal crop for a year of a Bulgarian peasant.—*Pacific Drug Review.*

Problems in Plant Chemistry*

New Fields of Phytochemical Research Opened Up by the Cultivation of Medicinal Plants on an Economic Scale

By **EDWARD KREMERS**, University of Wisconsin, Madison, Wis.

Edward Kremers

THE milling of half an acre of belladonna plants or the distillation of an acre of peppermint, when carried out by an observing scientist, ought to be productive of results, new in more ways than one. To the scientist who has conducted his experiments on a relatively small laboratory scale, the problems which confront him in milling or distillation may result in solutions new to him although old to the technologist. The fact, however, that the technologist does not record his experiences for the benefit of the scientist may make the observations of value to others if recorded. It is not to fields, new in this sense, that the writer wishes to draw your attention. The cultivation of medicinal plants on a semi-economic scale and the working up of the harvest, whether fresh or cured, present to the observing scientist fields that are new in quite a different sense. To some of these, selected at random, and the lessons already learned from them, the writer desires to invite your attention.

Digitalis

At the meeting of the Society held at Urbana in April, 1916, the writer presented to the Division of Pharmaceutical Chemistry specimens of digitalis that had been milled and sifted with a set of analytical sieves. Whereas the No. 20 powder prepared for an eastern hospital contained 10 per cent of ash, the No. 100 powder had an apparent content of nearly 80 per cent. The apparent ash content of the intermediate powders varied correspondingly according to the degree of fineness. This observation afforded a ready explanation of the greatly varying records of ash content of digitalis as found in literature.[1] Since that time a microscopical study of leaves with hairy surfaces and of the soil adhering to such leaves has been made by Tschirch.

The first lesson to be learned from this experience was a simple mechanical method of purifying digitalis and other leaves (hyoscyamus, sage, etc.). This method has already been adopted by others.

A second lesson is one for the analytical and government chemist. The Wisconsin Pharmaceutical Experiment Station certainly had no commercial motives when it gave some of its digitalis to eastern hospitals, yet, with all the care exercised in cultivation and curing, a so-called crude drug had been produced that yielded about 25 per cent of apparent ash. A high ash content—and ash standards have again come into greater prominence—does not necessarily indicate adulteration, not even carelessness. It may be largely a matter of character of the soil on which the foxglove has been raised, or a question of rains, quite beyond the control of the grower.

A third lesson is revealed in the possibility of controlling the process of milling so as to yield the largest percentage of coarse powder, provided, naturally, that such is the object of the miller.

A fourth problem was suggested at the Urbana meeting by the late Mr. Wilbert, who pointed out that if the apparent ash consists largely of clay, the occluding effect of this admixture may be such as to interfere with the therapeutic effect of the active constituents. The solution of the problem will be a joint one for pharmacist and pharmacologist.

Still another problem is met in working up the by-products of the milling room for pharmaceutical preparations of desired strength or, better still, of definite chemical composition. These problems have been attacked and it is hoped may form the subjects for separate reports.

Hyoscyamus

When the milling experience worked out in connection with digitalis was applied to hyoscyamus by our pharmacognosist Dr. W. O. Richtmann, and his assistant, Mr. F. Bacon, a striking observation was recorded. The ash determination happened to be made in the open laboratory rather than in the hood. In the assay of the fine powder there resulted a smoke which caused the occupants of the room to cough. No such result had occurred when the coarse powders had been incinerated. A microscopical examination of the fine powder revealed that it consisted not only of soil particles, but also of innumerable leaf hairs. Hence, aside from the lessons already learned from the milling experience with digitalis, we have several additional lessons to record.

The first of these is that in the milling of drugs we may have a very convenient means of separation of plant organs for special investigation, chemical or otherwise.

Second, Dr. Richtmann has been of the opinion, based on field observations, that the attraction of the plant for the potato beetle—this season all of the second year crop had to be harvested early in May because the potato beetle, finding no potato vines, threatened to devour every leaf—is due to a peculiar odor of the leaf. What more natural, therefore, than to infer that these leaf hairs are the reservoirs in which are stored the possible aldehydes, which on being heated in the crucible caused the irritation of the throat? Already a preliminary distillation with water vapor of the fine powder, rich in plant hairs, as well as soil particles has been made. It is expected that after the 1919 crop has been milled a sufficient amount of this fine powder will have been separated to make possible a careful study of this problem.

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*Presented at the 58th Meeting of the American Chemical Society and reprinted from the Journal of Ind. and Eng. Chem.

[1] A compilation of ash determinations of vegetable drugs has been prepared by several students, but the voluminous manuscript has not yet been edited for publication.

Last and probably not least, if the odoriferous substances of the hyoscyamus that attract the beetles can be identified, it may be possible to attract the beetles to traps containing these substances and to save the crop for further growth.

Peppermint

The cultivation of an acre of peppermint during the season of 1917 enabled the Station to initiate a series of experiments[2] in distillation. Mr. Norbert Mueller, the government expert, distilled the fresh peppermint harvested late in the summer of that season and Professor E. R. Miller, at the time chemist of the Station, cohobated the aqueous distillate which had been saved for that purpose. Suffice it here to call attention to the following points:

First, the additional oil obtained by cohobation amounted to about 10 per cent of the oil obtained by the first separation. This oil differs materially, quantitatively if not qualitatively, from the regular crude, i.e., non-rectified peppermint oil, and hence invites special study.

Second, for every liter of oil separated a liter of water-soluble constituents was obtained by repeated cohobation, or, to put it in other words: For a thousand acre peppermint farm we have been throwing away from one to two thousand liters of organic chemicals.

Third, whether or not these observations prove of economic importance, their biochemical significance is in no way diminished.

Just as the commercial drug distiller has kept his experiences largely to himself, so the distiller of peppermint and other aromatic herbs has not infrequently kept his observations to himself. For the most part he has not found the time in the rush of the season to interrupt his commercial production and to indulge in experiment. At times also he has not been in a position to interpret properly such observations as he has made.

The distillation of plants and parts of plants in the production of volatile oils has proven one of the most satisfactory methods of isolation in phytochemistry. Yet in comparatively few instances have the less striking water-soluble volatile constituents received any attention whatever.

The experiment with peppermint could not be repeated in 1918 because of the winter-killing of the mint. During the present season, however, the aqueous distillate is again being collected for cohobation. During the season of 1917 Professor Miller collected the aqueous products of a number of distillations and his results are soon to be published as a Station circular (Univ. of Wis., *Bulletin* 1024). During the present season Roland E. Kremers, who carried out a number of distillations for the Station, has collected and cohobated the aqueous distillates of wormwood, tansy, peppermint, and milfoil. The aqueous distillates of *Monarda punctata* and *M. fistulosa* will be collected by D. C. L. Sherk, who will also supplement Professor Miller's study of *M. fistulosa* by a parallel examination of *M. punctata*.

If it required years of study to isolate and identify the oily constituents of plants, it will, no doubt, require years and years to study their water-soluble volatile constituents. If for years the writer has desired to devoted to these latter constituents such attention as they seem to merit ,he has also wanted, for the same length of time, to study those products which escape from the condenser and are not collected either in the separated oil or in the aqueous cohobate. The study of these escaping vapors will require, as experience has already shown, specially constructed condensers and absorbers. Thus will be trebled in size, as it were, this one field of phytochemistry.

In bringing to your attention some of our milling and distillation problems, the writer has not attempted to solve any milling or distillation difficulties from a technological point of view, but has desired to point out how large technological operations and the biochemical study of plants should work hand in hand for the advancement of plant chemistry.

QUININE TRADE OF DUTCH EAST INDIES

The exports of quinine and cinchona bark from the Dutch East Indies, according to a report by Trade Commissioner John A. Fowler of the United States Department of Commerce, for the years 1917-18-19 and the countries of destination, were as follows:

Destination	Quinine Metric tons	Cinchona bark Metric tons	Quinine Metric tons	Cinchona bark Metric tons	Quinine Metric tons	Cinchona bark Metric tons
Netherlands	3	994	..	..	202	679
United States	27	767	41	1,156	66	1,743
Great Britain	23	900	51	744	163	2,313
Italy	..	..	1	..	1	37
Belgium	..	..	..	..	..	..
Greece	2	..	14	..	6	..
South America	..	..	7	..	3	..
Egypt	5	..	..	..	..	..
British South Africa	2	..	2	..	..	..
British India	13	..	60	18	74	223
Penang	..	..	..	..	..	..
Singapore	7	45	24	107	6	..
Siam	..	..	1	..	1	..
French Indo China	..	..	1	..	2	..
Hongkong	3	..	2	..	2	..
Japan	25	29	29	415	45	409
Philippines	1	..	6	..	7	..
Australia	3	..	4	..	11	..
China	15	..	10	..	8	..
All others	..	..	..	..	43	..
Total	129	2,735	253	2,440	640	5.404

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[2] Wisconsin Pharmaceutical Experiment Station, Circular 9.

Status of Individual Prophylaxis

Public Attitude Shows Decided Change Since 1914

THE effect of the war on almost all phases of human existence has been so fundamental that it is impossible to discuss any subject of social or economic importance without considering the period since 1914 as distinct from pre-war conditions. In no subject does this hold true to a greater extent than in the matter of public attitude toward the question of the so-called social diseases.

It is not so much that the prolonged dislocation of ordinary activities and the concentration of large bodies of men in the camps and at the front has resulted in a wider distribution of the diseases, though this is the report of all investigators. The problem is an old one, probably almost as old as the human race and a similar, but smaller, impetus has been given to the disease many times in the past.

War Emphasizes Conditions

The important result of the war was to bring the actual condition of affairs into prominence. The examination of men by the draft boards proved the extent to which venereal disease was prevalent and allowed intelligent estimate to be made of the startling loss of efficiency due to this one cause. Engaged in a war which it seemed probably would require our utmost in man-power, the country was shocked to learn the degree to which the usefulness of this man-power was impaired.

The urgency of the situation in view of the necessity for a healthy army, did more to break down the wall of silence with which these diseases have always been surrounded, than a hundred years of ordinary agitation could have accomplished. The question was taken up with a good deal of freedom in press and pulpit as well as among the medical fraternity. The reaction on the public attitude and on that of the medical profession has been interesting.

The subject has been discussed from the time that the science of medicine advanced to a point where the seriousness of the problem could be realized. Investigator after investigator has dreamed of discovering a specific or an antitoxin which would wipe out the disease. With the discovery of salvarsan and the other arsenicals it began to appear that the disease might be checked. All phases of the curative side of the question have been thoroughly discussed and information along these lines has been widely disseminated.

Prevention of Infection

Agitation incident to the war has had the effect of focusing attention on what is obviously the best means of controlling if not eradicating the disease, the prevention of infection. From the legal side the subject has received adequate consideration for hundreds if not for thousands of years. Law-makers have adopted every means in their power to curb the spread of the disease, and the most ardent advocate of reforming the human race by legislative enactment will not claim success in this particular field. Volumes have been written claiming or repudiating the efficiency and expediency of various methods. This phase of the subject is old and the war had little effect in influencing the general opinion.

It is in respect to medical prevention by individual prophylaxis that the greatest change in public opinion and the attitude of the medical profession has taken place. The attitude that it was fundamentally contrary to morals and ethics to explain or encourage individual sanitation on the ground that it would encourage immorality was formerly almost universal. Whether or not this ground is correctly taken, is impossible of demonstration. Removal of the fear of the consequences might cause a widespread letting down of the moral standard, or it might not. Even if it did, the bad effects might be more than balanced by the benefits derived from the lessening of infection. Such questions are purely theoretical at present and are not susceptible of decision.

Trend Toward Individual Prophylaxis

The point of interest to us is that for the first time there is an influential body of opinion in favor of encouraging individual prophylaxis. They base their stand ethically on the argument that fear of consequences has never been an effective deterrent and therefore the removal of it will not result in increased immorality, also that the disease is not to be considered as a punishment for misdoing, because it falls on the innocent as well as the guilty. Their belief in its effectiveness rests on the results which have been obtained by the Army and Navy.

Many if not all States have realized the necessity of a definite stand on the subject and few have cared, in view of the argument in favor of individual prophylaxis and the evidence of its effectiveness, to remain definitely against it. The attitude of benevolent neutrality taken by most State Boards of Health is proof of the great change in the public attitude on the subject.

Pennsylvania Educational Campaign

Some few States have gone much further and definitely endorsed and encouraged the sale of individual prophylactics. Pennsylvania has taken the most advanced and enlightened stand. The sale of individual prophylactic packages by the druggists is not only permitted, but urged and a campaign of education is being carried out to make the use of them by individuals universal and intelligent. The problem was first attacked by means of public prophylactic stations, which were maintained by the State and open to all who could be induced to make use of them. It was soon realized that this method would never accomplish results for the reason that only a small percentage of those who required treatment would ever enter the stations and also, because effectiveness of prophylaxis depends on treatment as soon as possible after contact, if possible within an hour. While the stations are still maintained, their lack of effectiveness is admitted and the main dependence is placed on the sale of individual prophylactic packages by the druggists.

Official Attitude on the Subject

The following letter published in the *New York Medical Journal* of July 24, 1920 and written by Dr. S. Leon Gans of the United States Public Health Service, which is cooperating with the Pennsylvania Department of Health, shows the official attitude on the subject;

To the Editors:

A word of appreciation for the editorial on the venereal peril published in the June 12th issue of the New York Medical Journal. Notice is taken of the mention made of sixteen prophylaxis stations established by the Department of Health.

The Pennsylvania State Department of Health does not centre its activity in the matter of venereal prophylaxis upon stations where prophylaxis may be given, but upon the individual prophylaxis package, which is, or should be, obtainable at all drug stores. * * * Letters have gone out to all druggists in the state asking them to keep in stock those preparations which come up to the requirements of the department. I wish to say that the prophylaxis stations are not doing much in this line of work.

S. Leon Gans, M. D.
Director, Genitourinary Division.

The stand taken by Pennsylvania cannot be without its effect on other States and it may be expected that a similar plan will be adopted elsewhere, especially if the results in Pennsylvania come up to expectations. This, naturally, can not be determined for some time, but Pennsylvania's statistics on venereal diseases will be examined with great interest by all connected with public health work.

The Time Factor in Compounding

Should the pharmacist, when pricing up a prescription, take into account the time occupied in dispensing it? The answer should assuredly be "yes," but, as one of the speakers at the British Pharmaceutical Conference pointed out, it too often happens that a man when reckoning up the cost of ingredients in a medicine, dispensing fee, and other factors, omits to make a specific charge for the value of the time involved. Interesting figures regarding the time required for dispensing various classes of preparations were given by the author of the paper, who found that the average time for a mixture was 6½ minutes; for 24 pills, 15 minutes; for 12 powders, 15 minutes; for 12 cachets, 17 minutes; and for 12 suppositories, 14 minutes; the processes involved including copying, dispensing, and "finishing off." It was found that in the case of mixtures the time value nearly equalled the cost of the ingredients; with pills, powders, and suppositories it was in excess of the cost of the ingredients, while with cachets the value of the time occupied on the work approximated the cost of the ingredients. It should be mentioned that the time value was calculated at the rate of 4s an hour, based on the present scale of remuneration for qualified labor. From the discussion that followed the reading of the paper, it was apparent that many chemists made, as one of the delegates put it, a present to the public of a large portion of the profit they were entitled to. Whether or not the pharmacist remembers to put a proper value on his time, the plumber or electrician who carries out repairs in the pharmacist's house does not forget to do so, and it is generally found when the bill comes in that a not negligible item among the charges is that of "Man's time."—(*Ind. and East. Drug.*)

Bedouins as Drug Customers

The Bedouins (the desert dwellers of Egypt) make strange customers for the pharmacist. When, on occasion, they visit the towns they sometimes stand outside the pharmacy and shout out that they want a bottle of medicine for five piastres or ten piastres. Generally, they are quite ignorant of the name of the medicine or what it is for. Some, however, after much questioning say they want "heshba," which appears to be the Bedouins' cure-all. "Heshba" is a solution of potassium iodide. They are also great swallowers of purgatives and take various cathartic drugs in doses which would appal the average Westerner.—(Egyptian correspondence in *Ind. and East. Drug.*)

ANTI-VIVISECTION IN CALIFORNIA

The California Society for the Promotion of Medical Research, with headquarters at Berkeley, Cal., has issued nine reasons for opposition to the anti-vivisection measure on the November ballot. The reasons follow:

1—Discontinuance of all experimental research in general biology, agriculture, medicine and veterinary medicine in California would result from this measure.

2—Proper training of students in these essential subjects would be impossible.

3—Abolition in this State of the manufacture of the most approved medicines and sera that are used in the prevention and treatment of disease would follow.

4—Destruction of the standardization of drugs and serious interference with the practice of medicine would be effected.

5—Prohibition of experimental diagnostic tests, so effectively used by physicians in their treatment of tuberculosis, syphilis and pneumonia would result.

6—All scientific progress through experimental channels would be stopped.

7—Public health work in the conduct of campaigns against epidemics would be completely handicapped, as under the anti-vivisection measure the scientific steps to discover the causes and control of any epidemic would be forbidden.

8—Preventive medicine would cease to be a vital force in California.

9—Incalculable damage to the health and development of the State and many other disastrous results would necessarily follow the adoption of this measure.

The Retail Druggists' Association of Kansas City, Kas., was organized at a meeting of the druggists at the Grund hotel. The officers elected were: President, W. Lee Vaughan; vice-president, Henry Kassel; secretary, Ed. Ackenhausen; treasurer, Frank J. Hassig. The organization is the first of its kind in Kansas City, Kas.

Big Profits in Toilet Accessories

Clever Reproductions of Ivory, Tortoise Shell and Amber in Open Stock Are Quick Sellers During the Holidays

By STEPHEN PROCTOR

Harry D. Mosaur, *The Tuskeloid Co., Inc., New York City, to whom we are indebted for many of the facts in this article.*

THOSE men who are running their pharmacies along commercial lines are always searching the market for some article for which there will be a steady demand, some article the quality of which will stand searching tests and which will be valued by the purchaser many months after the sale has been completed. They are looking for something that will make the customer feel he has received more than full value for his money and yet which will give them a quick turnover on their investment and return them a fair profit.

Man, modern or ancient, civilized or savage, delights in adding some ornament to his natural charms. This has been true from time immemorial; from the time, really, when prehistoric man first daubed his face with clay or pierced his features with a bit of wood or bone.

History tells us that pieces of flint, shell or bone were the first articles used for personal adornment. Then as the plane of life gradually became higher and higher, metals or ivory poorly wrought or crudely carved were brought into use. From the adornment of the person to the adornment of the night's shelter, of the winter cave, of the summer wickiup, or, as time progressed, of the permanent or semi-permanent home, was the step that followed the laws of nature just as surely as night follows day.

An Interesting Story

The story of the evolution of the toilet articles that deck the dressing table in the boudoir of a maid or matron of today is a mighty interesting one. But it also is an unusually long one and therefore it is impossible to go into it here. The editor, although a good friend of mine, is somewhat intolerant of circumlocution and I am afraid unless I get down to hard facts soon that these words will never grace a printed page.

For years the toilet articles of the dainty maid or matron were made from some of the precious metals, ivory or the shells of the tortoise. Of course these articles were extremely costly and as a result only the rich could afford to have them. But within a comparatively recent time modern genius has evolved processes by which the tusk of the elephant and the shell of the tortoise may be so well reproduced that it requires a particularly close examination to detect the reproduction from the genuine.

Throughout the year there is a more or less steady demand for toilet articles. Around the holidays comes the height of this demand. The druggists who are wise enough to put in a stock of toilet wares of open design will find that they will obtain many repeat orders. Fathers, mothers and sweethearts approve of open stock toilet accessories because they always may be sure of matching it when they want to add to the set as occasion suggests.

Must Prove His Claim

Any manufacturer who claims superiority and exclusiveness for his products may justly be asked to prove his claim and it is but reasonable that he should tell how these unusual qualities have been attained, says the maker of one of the leading lines of what, for lack of a better name, may be termed artificial ivory. This firm is considered by many as the Tiffany in its field. It may be called the quality manufacturer. It puts out an exceptionally handsome set of toilet accessories, all of which are open stock. The material from which these are made conveys the suggestion of ivory and the finished product so well supports the illusion that it is hard to believe this particular composition is the result of chemical processes. In fact it possesses those qualities of lustre and grainings which appear in the perfect ivory to such unvarying degree that it is in this respect said to be superior to the genuine tusk.

One of the lines manufactured by this firm has an inlay of color which extends through the entire article. By grooving or bevelling the edges a border is produced showing either blue, pink, black or orchid and this adds a touch of exclusiveness which is appealing to many ladies. Pretty contrasts are obtained in initial and monogram work by carving down to the color inlay.

Speaking of the value of artificial ivory—which really is a type of celluloid—this manufacturer said that the standards in his plant are higher than those maintained even in the shops which turn out delicate machinery. He said the raw material is given searching tests before it is accepted, that each step in the process of turning out the finished product is scrutinized very carefully and that the slightest defect is considered sufficient cause to mark the article as a second.

"And we do not deal in seconds," he said. "Our goods must be perfect or they are not allowed to leave our factory with our name or trade mark on them. Those who handle our goods know our policy and they know what our guarantee means. We never have had to make good on it because our inspectors so far have succeeded in preventing any imperfect article from leaving the factory."

Little Demand For Staple Designs

The demand for staple designs in toilet accessories, never very heavy, seems to be growing less as the years go by. But as this demand decreases, the call for fancy patterns and for patterns to match "period" furniture grows stronger. One manufacturer has been quick to grasp what possibilities this change in public sentiment holds for him. He devotes himself altogether to the making of fancy pattern accessories, having his own staff of artists prepare the designs. This gives him a position of commanding prominence in the trade.

"Our inlay line," he said to the writer, "lends itself unusually well to any color scheme that may be carried out in a boudoir. The shading are so delicate that they harmonize perfectly with the drapings of the chamber.

"There is a steady demand for our color work. There is a pink, a black, a blue, or an orchid inlay. And of them all, the orchid is the newest and most popular. Plain white always is in demand and recently there has been a strong call for our tortoise shell and amber finishes A complete set of our ware consists of eighteen pieces, but there are few girls or women so lucky as to receive such a set as a single gift. And there is where the beauty of open stock comes in. Father may select brush, comb and mirror for a Christmas present and follow it up on the girl's birthday with tray, jewel box and candle-stick, and then when the next Christmas rolls around he still has twelve other articles to pick from. Father appreciates this just as much as daughter does, you may well believe.

"There is a fair profit in our goods for the druggist. By placing an initial order amounting to say $200, he could test this out. And if he make a proper display of the attractive articles when the buying season of the holidays opens, he will find, unless I am greatly mistaken, that he will have to telegraph for stock replenishment before Christmas eve.

Trial Order Suggested

"You ask me what I would suggest for a trial order. Well, let's see. I would suggest three-piece sets in blue inlay. pink inlay and black inlay, I mean one set of each of these, which at $9.00 each would cost $27.00. I'd take a twelve-piece set with a blue border at $25.50, an eighteen-piece set with a black border at $39.00 and a three-piece set with an orchid border at $13.75. All those, of course, are in what we call inlay work. In the decorative pieces I'd suggest a three-piece set at $16.75, a twelve-piece set at $15.50, a fancy pattern three-piece set at $9.25, and a twelve-piece set at $21.50. This totals $203.25 if my figures agree with what your arithmetic teacher taught you.

"These sets should be displayed in a separate case well to the front of the store. Each set should bear a card giving the price of the complete set and each article in the set should be priced separately. Naturally the price of the set should be a trifle less than the aggregate of its component parts. In the background of the case should be displayed a neatly lettered card directing the attention of the prospective purchaser to the fact that all these articles are open stock and that it always will be possible to match or add to any of the items at the store where the purchase is made."

Early Ordering Necessary

Manufacturers of this type of toilet articles are just recovering from the effects of the war and while they are not in any way over-stocked they have sufficient on hand to take care of any normal demand. The druggist who expects to make a bid for the Christmas trade this year would do well to place his order as soon as possible. While it is probable that immediate deliveries may be obtained there is always the possibility that the demand for the articles he wants will have been so great that the manufacturer will be unable to fill his order on time and as a result the retailer will lose a profitable line for his holiday selling.

Summed up it may be said that there are few articles carried by a drug store as a side line that will yield such a quick turnover and such a really fair profit as toilet accessories of the nature mentioned in the foregoing. The druggist who hopes to make material additions to his bank balance will not pass up the opportunity to cash in along the lines described.

The special committee appointed by the Peppermint Growers' Association to make a survey of the Indiana and Michigan crop situation, reports an increase of 2,195 in the acreage over last year, but a probable reduction of 35,000 to 40,000 pounds in the yield.

NEW REMEDIES

Afenil is a combination of calcium chloride with urea.

Aguttan, novatophan and hexophan are all derivatives of atophan.

Calciglyne is also a calcium chloride derivative with glycocol.

Dial is a derivative of diallylbarbituric acid, and consequently is closely related to veronal.

Diafor is the result of the attempts to prepare aspirin in a soluble form. It is an aspirin-urea derivative.

Dubatol is the isovalerylamygdalate of calcium and is used in the treatment of nervous insomnia.

Eckaine is an anaesthetic, similar in action to cocaine, but only about one-eighth as toxic.

Etelene, which is the ethylester of triacetyl gallic acid, is the only one of the series which is crystallizable.

Eucupine is isoamylhydrocupreine and is employed for the disinfection of the nasal passages in grippe and similar infections.

Eudocal is a new hypnotic which is derived from thebaine. Its chemical structure is similar to morphine as is its action. It is superior to morphine as a narcotic and does not seem to be habit-forming.

Meracetine is a mercurial derivative of acetylpyrocatechol. It is insoluble in water and is used in suspension in paraffin. The calcium salt is used under the name of "calcibram."

Migrol is a derivative of pyramidon.

Mydriasine is almost identical with atropine.

Neotanyl is an acetotannate of aluminum, thus associating two substances which are each efficacious in the treatment of diarrhoea. Multanine and noventerol are similar derivatives.

Nirvonal is another hypnotic which belongs to the hydrantoin series.

Novasurol is a combination of veronal with the sodium salt of a mercury derivative of phenoxyacetic acid.

Optanin is a basic tannate of calcium, containing 14% calcium oxide.

Paramorphan is dihydromorphine. The physiological effect is slightly inferior to that of morphine, but it is not habit forming. Its diacetyl derivative is used under the name of "paralaudine."

Phenoval has an action similar to phenacetine but is more sedative. It is bromisovalerylphenetidine.

Soarsan is a new arsenical derivative.

Tebelon is the oleate of isobutyl alcohol and is said to be employed in the treatment of leprosy and other skin diseases. The value is not yet ascertained, but some good results have been obtained.

Theacylon is an aspirin derivative of theobromine. It has no action in the stomach and decomposes in the intestines, forming aspirin and theobromine.

Toramine is a combination of chloretone and malonic acid.

Tricalcol is a calcium phosphate which has been rendered colloidal by the presence of caseine.

Trypaflavine is an antiseptic taken from among the dyes. It is the choride of 3-6 diamido, 10-methylacridinium. A methyl derivative, combined with the nitrate of silver, is known under the name of "septacrol" and has been used in treatment of the grippe by intravenous injections.

Vuzine is isoethylhydrocupreine. It has an antiseptic power apparent in concentrations as low as 1:175,000, which it maintains even in the presence of albumen. It was used by the Germans during the war.—(*J. fur angw. Chem.* through *J. Pharm. Belg.*).

THE QUESTION BOX

The "How to Do It" Department

CONDUCTED BY PHARMACEUTICAL EXPERTS

For the benefit of ERA Subscribers

Ammonium Sulphide Test Solution

(Student)—The solution is made by passing hydrogen sulphide gas into ammonia water, the Pharmacopoeia directing the operator to saturate 3 parts of ammonia water (U. S. P.) with hydrogen sulphide (prepared from ferrous sulphide in the manner described in the U. S. P., page 535), and add to the solution (which now contains ammonium hydrogen sulphide, NH_4HS), 2 parts of ammonia water, which converts the greater portion of the ammonium hydrogen sulphide into ammonium sulphide $(NH_4)_2S$. The reagent when first prepared is colorless but on keeping, especially in contact with air, becomes yellow, due to the formation of polysulphides. On long standing further decomposition takes place and sulphur is deposited. The ammonium polysulphide solution required for the separation of the sulphides of the tin and copper groups and other purposes, may be prepared by dissolving sulphur in this reagent. Solution of ammonium sulphide is used chiefly as a group reagent and for the detection of the heavy metals. The Pharmacopoeia directs that it be protected from air and light by keeping it in small, dark amber-colored bottles, in a cool, dark place. The solution should be rejected as soon as a notable deposit of sulphur has made its appearance in the solution.

Vanishing Cream

(R. M. G.)—Two formulas under the above title appeared in the June, 1919, ERA, page 147. Here is another;

Stearic acid, highest purity	19 ounces
Glycerin	34 ounces
Distilled water	56 fl. ounces
Stronger solution of ammonia	10 fl. ounces
Cologne spirit	4 fl. ounces
Oil of hyacinth	2 drops
Artificial jasmine oil	1 fl. dram
Artificial musk, crystal	5 grains
Terpineol	4 fl. drams

Melt the stearic acid on a waterbath at a temperature between 160° and 175° F. Heat 8 ounces of the glycerin with 48 fl. ounces of water to the same temperature and add the ammonia to this. Then pour this slowly into the melted stearic acid, with constant stirring. Mix the rest of the glycerin and water and heat to 175°. Pour this into the first mixture with constant stirring and maintain the temperature and stirring for about fifteen minutes. Remove from the heat and beat well until cold. Mix the perfuming material with the spirit, and add this slowly, while beating the cream.

Fenner's "Formulary" gives the following under the title "Imperial Vanishing Cream"; Aluminum hydroxide, 4 ounces; precipitated chalk, 4 ounces; glycerin, 4 ounces; water, 4 ounces. Perfume as may be desired with oils, bulk perfumes or synthetic perfumes. The powders are to be intimately mixed and rubbed with the liquids to a stiff paste; the perfuming oils or extracts are to be added during the mixing. This can be sold as a cream containing neither lead, zinc nor bismuth and no hydrocarbon oils. It is stated to be an excellent application for the skin for all purposes and being greaseless makes it a popular cream for the complexion.

Pencil Mark Erasers

(N. D. H.)—A reference work published many years ago contains the following outline for making pencil mark erasers; Caoutchouc is dissolved in carbon disulphide, the solution is intimately mixed with enough starch flour to form a dough, and exposing the mass, in suitable pieces, to the air, until all the odor of the carbon disulphide has disappeared. It is stated that the product is an excellent eraser for lead pencil marks from paper. If, in addition to starch flour, finely powdered pumice stone be added to the mass, it will be suitable for erasing ink marks or writing from paper.

See also reply to a similar inquiry in the Question Box, this journal, February, 1920, page 45.

Shaving Cream or Paste

(Wm. K. S.)—Try one of the following;

(1)

Lard, 7 pounds; caustic potash, 1 pound; water, 3 pints; glycerin and perfume, a sufficient quantity. Melt the lard in a porcelain vessel on a waterbath; dissolve the caustic potash in the water, and pour the solution very slowly into the melted lard, stirring thoroughly all the time until saponification is completed. Then add the requisite perfume, and sufficient glycerin to render the mass thin enough to be adapted for use in tubes.

(2)

Stearic acid, 200 grains; ammonia water (28%), 15 minims; solution of potassa (5%), 360 minims; glycerin, 1 fl. ounce; water, 9 fl. ounces; perfume, a sufficient quantity. Melt the acid, add the water (hot), glycerin and solution of potassa, previously mixed and brought to a temperature of 80° C., adding the ammonia water just before mixing with stearic acid. Stir and heat a few minutes until the mixture thickens, then cool, and add the perfume. For perfuming the paste, a mixture of lavender and bay oils is said to be particularly suitable.

(3)

Curd soap, 8 ounces; almond oil, 2 ounces; glycerin, 1 ounce; spermaceti, ½ ounce; potassium carbonate, ¼ ounce; water, 16 ounces. Cut the curd soap into shreds and dissolve it by the aid of a waterbath in 14 ounces of water. Dissolve the spermaceti in the almond oil, and while warm mix with it the glycerin, potassium carbonate and remainder of the water; transfer to a warm mortar, gradually and steadily incorporate the warm soap solution and continue to stir until a smooth paste is formed. Finally incorporate a suitable perfume.

Barium Carbonate as a Rat Poison

(C. L. C.)—"Will you kindly give through your 'Query and Answer department' full data regarding barium carbonate (witherite), its poisonous properties and uses, especially as a rat poison?"

Barium carbonate is found native, as witherite, in large quantities in various parts of the world, especially in the lead mines of Alston Moor, England, also in Styria, Siberia, Chili, Sicily and other countries. Witherite occurs in pale-yellowish or grayish fibrous masses, or in rhombic crystals varying in specific gravity between 4.3 and 4.56. Barium carbonate is also produced artificially by precipitating a soluble barium salt with an alkali carbonate, or by heating to redness and fusion a mixture of 10 parts of heavy spar (barium sulphate), 2 parts of carbon, and 5 parts of potash, and washing the fused mass with water, when barium carbonate is left behind. The reaction is shown by the following equation: $BaSO_4+C_2+2KOH=BaCO_3+CO_2+H_2O$. The artificial barium carbonate thus obtained forms a soft, white, amorphous or crystalline powder, having a sp. gr. of 4.22 to 4.307, and is difficultly soluble in water, some authorities stating that it requires more than 15,000 parts of boiling water to effect solution. It dissolves readily in solution of chloride and some other salts of ammonium, and is also slightly soluble in some carbonates. It is used in the preparation of other barium salts, in rat poisons, as a water softener, in the manufacture of flat wall paints, and in the ceramic and rubber industries.

Recently various public health authorities have experimented with its use as a rat poison, with the result that it is said to be the most efficient agent that can be used for the purpose, and one of the few which the rat fails to detect. It is safe to handle and, in amounts necessary for use, is not dangerous to man. It has also been stated that 15 grains are necessary to kill a cat, 20 grains to kill a chicken, and that dogs withstand a dose of 140 grains, while three grains are sufficient to kill a rat.

In using barium carbonate, it is recommended to mix one pound with three pounds of flour, and add sufficient water to make the whole into a firm paste. The resulting mass is sufficient for some 2,300 baits each containing 3 grains of barium carbonate. Clean hands and dishes are necessary to avoid the addition of extraneous taste and odor which might diminish the attractiveness of the bait. Baits should be made fresh each day, or at most every second day—a hard stale bait is rarely eaten by a rat. The baits should be distributed in such parts of the building as are frequented by rats; and this is best done in the evening. It is also advised that a record should be kept of the number of baits so distributed and the number eaten by rats. During poisoning operations, special effort should be made to keep all food usually available protected from their access.

Babcock's Test for Fat in Milk

(F. P.)—Babcock's method of testing for fat in milk, sometimes also known as Babcock's centrifugal method, is based upon the principle of the destruction of organic matter in the milk other than the fat by sulphuric acid and the centrifugation of the acid solution in a Babcock tube, the neck of which is graduated or divided into fifty divisions, each of which represents 0.2 per cent of fat by weight; the figures thus obtained show the per cent of fat in the sample of milk taken and are easily read off at a glance. Milk analysts state that this method is one of the most satisfactory in common use and is accurate to within 0.5 per cent. The procedure followed in making the test is as follows:

By means of a special narrow pipette introduce milk into the tube up to the 5 cc. mark. Now add sufficient sulphuric acid (sp. gr. 1.83-1.834) to fill the body of the tube and rotate the tube to secure a homogeneous acid-milk solution. Fill the neck of the tube with an acid-alcohol mixture (consisting of equal volumes of amyl alcohol and concentrated hydrochloric acid). Centrifuge the tube and contents for one to two minutes and read off the percentage of fat by means of the graduated neck of the tube. If the top of the fat column is not at zero it may be brought there by the addition of water and a moment's recentrifugation. In case a very rich milk (over 5 per cent fat) is under examination, it may be diluted with an equal volume of water before examination and the fat percentage multiplied by two (2). In the examination of cream it is customary to dilute the sample with four volumes of water and multiply the resultant fat by five (5).

Modifications of this method have been proposed for testing sweetened dairy products, such as ice cream, entailing the use of a different type of centrifuge tube, as Halverson's modification of Babcock's method. A more recent modification of the method in which the regulation Babcock tube is employed is that of Francis and Morgan (*Jour. Ind. and Eng. Chem.* 1917, page 861). This involves the use of mixtures of glacial acetic, sulphuric and nitric acids instead of sulphuric acid, this modification making the method applicable to the analysis of ice cream, and evaporated, malted and dried milk.

Manufacture of Invert Sugar

(W. T. T.)—Some information on this subject was given in an article entitled "Fountain Uses of Invert Sugar" which appeared in the July, 1920, issue of the "Soda Fountain," page 43. However, considerable experience and some apparatus are needed to produce economically invert sugar on a manufacturing scale. The production of invert sugar from ordinary sugar is accomplished by warming the sugar for a short time with a dilute acid (citric, acetic, etc.) which causes the sugar to take up water, thereby converting it into a mixture of two other sugars, glucose and fructose. The same change can be effected by certain organic ferments and in other ways, the reaction being thus indicated;

$$\underset{\text{Sucrose}}{C_{12}H_{22}O_{11}}+\underset{\text{Water}}{H_2O}=\underset{\text{Glucose}}{C_6H_{12}O_6}+\underset{\text{Fructose}}{C_6H_{12}O_6}$$

The mixture of glucose and fructose is commercially known as "invert sugar." As you are probably aware, sucrose rotates the plane of polarized light to the right. Glucose also rotates the plane of the ray to the right, but fructose rotates it to the left to a greater degree at ordinary temperatures and for this reason this mixture causes a left-handed rotation and therefore the name "invert sugar." This sugar is found in honey, in some fruit juices and in syrups made from sugar cane or sorghum. Owing chiefly to the fructose which it contains, it is said to be sweeter than ordinary sugar.

A number of patents have been granted for manufacturing invert sugar, the details of the operation varying somewhat in each process. One of these processes (French Patent No. 484,259) gives the following information in outline; An aqueous solution of sugar is boiled with citric acid at a temperature just below that of caramelization, and the product suddenly cooled. The preferred temperature is 111.4° C. Satisfactory results are obtained by maintaining the solution at a temperature of 99-103° C. for a long time, then raising the temperature to the point just below caramelization and suddenly cooling. In this process the addition of an edible gum is said to be advisable, the following proportions being suggested; 0.47 per cent citric acid and 0.14 per cent gum arabic of the weight of the dry sugar. The literature of the Patent Office reveals various other details and manipulations, covered by patent, which are followed by manufacturers in producing invert sugar on a large scale.

The Progress of Pharmacy

The New Arsenical—

Some interesting comparisons of the new arsenical, sulfarsenol, with salvarsan and neosalvarsan have been made. While more active than neosalvarsan, experiment has shown that 25 centigrams are required to produce the same toxic effect as 8 to 10 centigrams of neosalvarsan. Statistics confirm this for 300,000 injections have been made without a fatality, while deaths from neosalvarsan were one to 54,000 in 1919 and one to 18,000 in 1912. The new product is much more stable. A solution of neosalvarsan exposed to the air for twenty-four hours is fatal if injected, while a similar solution of sulfarsenol exposed in the same way is not appreciably changed and may be used with impunity. Moreover there are indications that sulfarsenol has a favorable effect on certain tropical diseases. All these facts would appear to justify the claim that "sulfarsenol is the arsenical of the future."—(*J. Pharm. Belge.*)

Salvarsan and Neo-salvarsan—

A recent article in one of the German journals gives a number of ways to distinguish between salvarsan and neo-salvarsan. A few are quoted here. Five cc. of neo-salvarsan solution (1:1000) with one one-tenth cc. dilute hydrochloric acid gives a precipitate which dissolves on boiling and reprecipitates on cooling. Salvarsan does not give this. Ferric chloride gives with both a green to red coloration which in the case of salvarsan turns to dark red when an excess of the reagent is added, while the neo-salvarsan goes to violet. Mercuric chloride gives an orange precipitate with neo-salvarsan solution and a white with salvarsan. Ammonium molybdate gives an olive-green precipitate with salvarsan and an olive-green coloration but no precipitate with neo-salvarsan. Salvarsan solution undergoes a number of changes with concentrated sodium bisulphite solution, becoming first grayish-green and then a cloudy gray, while on warming the liquid becomes green and then gives a lemon-yellow precipitate. Neo-salvarsan is not affected by this reagent. (*Chem. Zent.*).

Polygonum Hydropiper L—

An investigation of *P. hydropiper* L. by M. Steenhauer discloses the presence of acetic, formic and valerianic acids in the free state, the acetic acid being present in the largest amount. The first two also occur in the wax in the combined form. The plant contains also a good deal of tannic acid and potassium nitrate as well as small amounts of gallic and malonic acids. Glucose and fructose are the sugars present. S. found a trace of essential oil to which he attributes the acid taste which is characteristic of the plant. He failed to find the acrid principle which Rademaker called polygonic acid.—(*J. Chim. et Pharm.*).

The Determination of Nitroglycerine—

The following method is described for the analysis of commercial nitroglycerine solutions (Liquor trinitrini, L. glonoini):—5 c.c. of the sample is mixed with 50 c.c. of water and titrated with N/10 barium hydroxide solution. After deducting 0.1 from the number of c.c. of alkali solution used, the result is divided by 1.02 (correction for slight hydrolysis). To determine the nitroglycerol, 5 c.c. of a 10% solution plus 5 c.c. of 90% alcohol, or 10 c.c. of a 5% solution, is treated with 25 c.c. of N/2 alcoholic sodium hydroxide solution; 10 c.c. of the latter solution is required for 20 c.c. of a 1% nitroglycerol solution. After r mins. phenolphthalein is added, and the excess of alkali titrated with N/1 acid. If more than 4 c.c. of acid is used the determination must be repeated, increasing the alcoholic strength, since the final solution must contain at least 81% of alcohol. The volume of alkali solution used is corrected for the acidity as found above; then 1 c.c. of N/1 alkali solution is equivalent to 0.05675 g. of nitroglycerol. If *2* c.c. of "100-vol." hydrogen peroxide is added before the addition of alkali, the final alcoholic strength has much less influence on the titration.—(*Analyst* through *J. Soc. Chem. Ind.*).

Destruction of Mosquito Larvae with Trioxymethylene—

Trioxymethylene (paraformaldehyde) is a possible substitute for crude petroleum in the war on mosquito larvae and has the advantage that it does not render the water unfit for cattle. The efficacy of the powder is due to the habits of the larvae which feed at the surface and ingest the fine particles. The powder should be very fine and be uniformly scattered when the water is still. The amount needed is only 0.25 gm. to a sq. meter. Action is specific to the Anopheles larvae, other organisms being unaffected. Several applications are needed at intervals of a few days as the powder is soon dissolved and only larvae at a certain stage are killed. Evening and early morning are the best times for application.—(*Comptes Rend.* through *J. Pharm Belg.*).

Testing for Salicylate—

H. W. Jones proposes a substitute for the method of the Pharmacopoeia IX for assaying alkali salts of organic acids as applied to salicylic acid. The objection is the time consumed and the effect of carbonates or bicarbonates, if present, on the results. Koppeschaar's bromine solution which is used for certain phenols may be used since salicylic acid in aqueous solution will form a tribrom derivative. Benzoic acid does not react under the same conditions. Dissolve one gram of dried sodium salicylate in distilled water to make 100 mils. Pipette 10 mils of this solution into a 250 cc. flask and add 75 mils distilled water, 50 mils N/10 bromine V.S. and 5 mils hydrochloric acid. Stopper and shake occasionally for 15 minutes. Then add 10 mils potassium iodide T.S. and titrate the iodine with N/10 sodium thiosulphate V.S. using starch indicator. The difference between the bromine and thiosulphate solutions multiplied by 2.667 gives the percentage purity of the sodium salicylate. The method may also be used for salicylic acid. Jones suggests that the method be included in the next Pharmacopoeia.—(*J. Am. Pharm. Assn.*).

Oil of Plum Stones as Substitute for Almond Oil—

The utilization of plum stones for an oil to take the place of expressed almond oil and other oils and fats has been reported. For trial purposes F. Darvas freed 5 kg. of plum stones from their outside hard shells and thereby obtained 1 kg. of kernels from which he produced 200 g. of fatty oil. Subjecting the expressed residue to dry steam distillation and collecting the distillate in 20 per cent alcohol, he obtained 670 g. of a solution of 1.3 to 1.4 per cent benzaldehyde cyanhydrine. The residue consisted of a press-cake, poorer in oil, but rich in albumen, weighing about 800 g. The fatty plum oil, after being purified, was of a golden-yellow color, transparent, and odorless, having a pleasant mild taste, and a congelation point of about –17° C.; constants, d 0.9169 to 0.918; acid value, 1.8 to 2.1; iodine value, 97.5 to 100.6. In general characteristics, plum oil ranks between almond oil and sesame oil, and is equally suitable as a table oil or for medical purposes. The residue left after the extraction of the oil, and the plum water can be used for cosmetic purposes (instead of almond powder), while the residue itself, owing to its richness in albuminous substances, is suggested as a particularly nourishing food for animals.—(*Schimmel's Report*).

Physiological and Biological Importance of Volatile Oils—

Although we do not know what physiological and biological importance must be ascribed to volatile oils and flower scents, some ideas have been expressed on the subject; but in the main they have been found to be erroneous. Regarding the supposition that volatile oils protect plants from animal attacks, or from too great loss of temperature at night, from excessive evaporation during the day, or that the strong odor attracts insects, etc., K. von Frisch concludes from his own investigations that neither the scent nor the color of the plants can be regarded as an enticement, but rather as a guidance. The scent of a bush in full bloom or of a whole field of sweet-smelling flowers may attract bees from a distance, especially when the wind is favorable, but the determining factor is not the odor of the plants, but the color. Notwithstanding this generalization, von Frisch outlines several experiments which showed that bees are capable of making a fine distinction between various odors. In spite of the fact that the behavior of the bees varies with different scents, and that the direction of the wind is not without effect in this matter, it would seem that both scent and color have a combined effect.—(*Schimmel's Report*).

Determination of Alkaloids of Cinchona Bark—

Van Ketel suggests that the total alkaloids of cinchona bark be determined by grinding the bark with a little lime, moistening with ammonia and extracting with a mixture of four parts ether and one part chloroform. The extraction thimble containing the bark is hung in the neck of the flask with the boiling solvent for thirty minutes. The solution is then shaken with dilute hydrochloric acid solution, treated with ammonia, and is then extracted with ether, the ether distilled off and the residue dried and weighed. Benzene, C_6H_6, may be substituted as a solvent, but a little amyl alcohol may be needed to facilitate the separation of the hydrochloric acid solution. The method is applicable to opium crudes and probably to many other alkaloidal crudes.—(*Pharm. Weekblad.*).

Testing for Cod Liver Oil With Sulphuric Acid—

True cod liver oil should give a violet color turning to brown, according to the "Holland Pharmacopea IV," if tested on a porcelain plate with sulphuric acid of specific gravity 1.72. De Kadt claims that the test is useless as some genuine oils fail to respond, especially those bleached by sunlight or other means. He found that if the oil was treated with fuller's earth or other decolorizing materials and the decolorizer was then extracted with carbon bisulphide, the extract gave a strong test. Other solvents can be used in place of carbon bisulphide. He regards this as proof that the substance giving the test is part of the coloring material of the oil.—(*Pharm. Weekblad* through *Chem. Abs.*).

Inorganic Phosphates in Glycerophosphates—

If 0.1 gram of a glycerophosphate on treatment with 10 cc. of dilute nitric acid and 10 cc. of 10% ammonium molybdate solution develops a turbidity, the presence of 0.1 per cent or more of inorganic phosphate is indicated. The test is even more sensitive if a reagent is prepared from 80 cc. of 10% ammonium molybdate solution and 12 cc. of hydrochloric acid of sp. gr. 1.16 to which 20 grams of ammonium chloride and 10 cc. of saturated potassium persulphate solution are successively added. If five cc. of this reagent is treated with 0.1 gm. of the glycerophosphate a turbidity forms within a few minutes if as little as one one-thousandth of a per cent of inorganic phosphate is present. J. L. Lizius claims that the U.S.P. test is not to be trusted, as too little molybdate reagent is used.—(*Pharm. J.*).

Ampuls of Morphine Hydrochloride Solution—

Dezeine has investigated the conversion of morphine hydrochloride in aqueous solution into oxy-dimorphine. This change occurs to some extent when the solution is sterilized in sealed ampuls. He found that conversion did not occur when the solution was slightly acidified or when neutral glass was used for the ampuls. He concluded from this that the cause of the change is dissolved alkali from the glass.—(*J. Pharm. Belg.*).

Testing for Eucalyptus Oil—

Cineol, the main constituent of eucalyptus oil, is found by Cocking to combine with o-cresol in molecular proportions, giving a crystalline compound which he calls "cresineol." It has a melting point of 55.2°, is soluble in most organic solvents, and is decomposed by alkali hydroxides. This reaction of cineol is used as the basis for an analysis of eucalyptus oil. Three grams of the oil is mixed with 2.1 grams of o-cresol and the solidification point determined. Reference to a curve made from the solidification points of known mixtures gives the percentage of cineol corresponding with the value found.—(*Pharm. J.* through *J. Soc. Chem. Ind.*).

Glycerin in Tinctures and Fluidextracts—

Does the use of glycerin as prescribed by the Pharmacopoeia and the National Formulary aid solution or prevent precipitation in fluidextracts and tinctures? W. L. Scoville has investigated this matter on twenty-seven of the preparations in which these authorities prescribe its use, comparing the results with those obtained under identical conditions but using a menstruum without glycerin, but of equal alcoholic strength. His conclusion is that the value of glycerin for these purposes has been greatly over-estimated. Of the twenty-seven preparations tried, only one-third showed any advantage from the use of glycerin, while in some it was a distinct disadvantage. As a solvent glycerin hindered extraction in the cases of calisaya, hydrastis, rhubarb, geranium, rose, apocynum and uva ursi. As a stabilizer it was effective in only ten cases; having no effect on the others. Sugar was shown to be effective in several cases, notably calisaya, red cinchona, hamamelis, apocynum and a few others. Glucose acts similarly but introduces some water, which reduces the alcoholic strength and therefore is not desirable.—(*J. Am. Pharm. Assn.*).

Compounds Related to Adrenalin—

Practically since the discovery of the value of synthetic drugs efforts have been made to correlate the chemical structure with the physiological activity. A favorite method has been to study the effect of the substitution of certain groups or the introduction of new ones on the physiological effect. Some interesting results along this line have recently been published by A. Madinavertia on compounds related to adrenalin. The substitution of the benzene ring in this class of compounds by the naphthalene group increased the activity approximately forty times. The earlier observation that a hydroxyl group in the ring increased activity was found to be correct.—(*J. Soc. Chem. Ind.*).

Colorimetric Determination of Adrenalin—

The method, developed by W. L. Scoville, consists in comparison of the color developed by iodic acid on definite amounts of the sample with standards prepared from ammoniacal cobaltous chloride solutions. It checks well with the biological method when preparations of known acidity are being tested and when sodium bisulphate if present is allowed for.—(*J. Ind. Eng. Chem.*).

New Books for Pharmacists

CHEMICAL REACTIONS. Their theory and mechanism. By K. George Falk, Ph.D. Harriman Research Laboratory, The Roosevelt Hospital, New York. 12 mo., 211 pages, cloth. New York. D. Van Nostrand Company.

Everyone interested in following the developments of chemical theory will welcome the appearance of this book, which is the first to discuss chemical reactions from the modern viewpoint. The electronic conception of valence and the addition theory of reactions have been generally accepted and applied to many reactions, but this is the first attempt to make a general application of them. When reference has been made to these ideas in texts, it has been frequently only in foot notes or added chapters. The author goes much further and explains all chemical reactions in terms of the electronic theory of positive and negative valence. The book is more than a mere discussion of particular reactions; it is an exposition of the new chemistry.

Dr. Falk is especially fitted to present his subject, being one of the earliest workers in this field. In spite of the fact that many of the points discussed are still matters of dispute, he has managed to avoid even the appearance of controversial writing. Many readers who are not familiar with the literature on the new conception of valence, will regret that the author has not discussed the evidence more fully, but that was not his purpose, and copious references to the original papers are provided.

The preface begins with the statement that "the central idea of this book is the development of a general theory of reactions, which will include both inorganic and organic reactions." Even if it has not succeeded in this ambition, and the reviewer does not say that it has not, it is one of the most valuable and suggestive books on chemical theory published in a long time.

NEW YORK STATE WORKMEN'S COMPENSATION LAW. With amendments, Additions and Annotations to August 1, 1919. Issued under the direction of the Industrial Commission.

This pamphlet of 104 pages, prepared by the Bureau of Statistics and Information, contains explanatory notes and a digest of the Workmen's compensation law, first enacted in 1913, and subsequently amended by fourteen later acts up to and including 1919. As a matter of history, the act was administered by the Workmen's Compensation Commission during its first eleven months and, thenceforward, by the State Industrial Commission. In its application, the act is held to provide for the compensation payable for injuries sustained or death incurred by employees engaged in certain hazardous employments which are divided for classification into forty-five groups. Of these groups, No. 28 covers the manufacture of drugs and chemicals, medicines, dyes, extracts, pharmaceutical or toilet preparations, soaps, candles, perfumes, non-corrosive acids or chemical preparations, fertilizers, etc., the manufacture of ammonia, petroleum, petroleum products, celluloid, the manufacture, storing or handling of explosives and dangerous chemicals, corrosive acids or salts, etc., being placed in Group 25. As explanatory of Group 28, an appended note states that this group covers a general utility man accidentally killed while building a shelf in a wholesale drug establishment.

As showing the scope of the bulletin there is first given the text of paragraph 19 of Article 1 of the constitution affirming the power of the legislature to protect and compensate, and then the text of the compensation law under the following headings: Coverage and definitions; compensation, liability, rates, appeals, etc.; insurance methods and regulations, commission, powers and duties; State insurance fund, custody and management; miscellaneous provisions, employers' records, interstate commerce, etc., and a list of the laws repealed. A general index (by subjects) is followed by a finding list of employments included under Section II.

CRUDE BOTANICAL DRUG INDUSTRY

THE crude botanical drug industry is the subject of a pamphlet recently issued by the United States Tariff Commission. World trade, production and consumption are discussed, and imports, exports, and prices are given for some fifty foreign and domestic articles of chief importance in the drug trade. These crude herbs, roots, and leaves, although as ancient as commerce itself, are nevertheless essential to the practice of modern medicine.

The domestic crude drug industry is of comparatively recent origin. Before the war a few native drugs, such as ginseng, cascara sagrada, and golden-seal, were grown on a commercial scale, but in general there was little or no competition between American crude drugs and those produced abroad. Foreign botanicals were not cultivated here either because of unsuitable climate or because our agriculture could not compete with wild or even cultivated materials produced elsewhere by the cheapest classes of labor.

Upon the outbreak of the war and the cutting off of imported supplies, the prices of crude drugs rose to unprecedented heights. Army demands accelerated the upward trend, and the influenza epidemic in the United States and abroad called for enormous quantities of drugs. Popular interest was aroused and efforts were made at once to cultivate many indispensable drugs. Considerable success has been reported with belladonna and digitalis (commonly known as "fox-glove"). Henbane, stramonium, and Levant wormseed, all important drugs, have been cultivated with somewhat less success, and many others have been tried on an experimental scale. Wormseed is the source of santonin, the basis of all worm expelling remedies. In 1917 it was discovered that santonin was a valuable material for ridding hogs of worms. As a result of the enormous demand from American stock growers, the price of santonin has risen from a pre-war figure of $25 per pound to $175.

In discussing the probable future of American drug cultivation, the report states that climatic, labor, and other conditions will doubtless preclude the commercial production of many staples, such as opium, for morphine, coca leaves for cocaine, cinchona bark for quinine, and nux vomica for strychnine. In general botanical drugs require a high degree of agricultural and technical skill and experience, valuable land, some special appliances, and a class of labor which is more expensive in this country than abroad. The industry is further limited by liability to insect and disease damage and by the comparatively small demand. These exacting requirements have been met in the cases of certain drugs such as belladonna and digitalis, and because of high prices and the absence of foreign competition, their cultivation has been commercially successful.

The American crude botanical drug industry appears to have received little or no attention in previous tariff revisions. The aggregate value of its production is small, but its importance to the public health can hardly be overestimated. The botanical drugs can not be replaced by synthetic medicinals, nor can their production be immediately stimulated and secured in emergency as is the case with most of the manufactured products. The American industry is asking that serious consideration be given to the advisability of the continued cultivation of the indispensable drugs which have been successfully produced under American climatic, labor and economic conditions.

(Copies of this report may be purchased from the Superintendent of Documents, Government Printing Office, Washington, D. C. for ten cents each.)

SOURCES OF CARTAGENA IPECAC

Some information concerning the commercial sources of Cartagena ipecac is furnished in a recent report to the Bureau of Foreign and Domestic Commerce. It would appear that while this variety of the root is found in varying quantities along all the streams of the Cartagena district, the greater portion and the best quality comes down from the Sinu Valley where the soil is peculiarly adapted to its growth. No attempts whatsoever have been made to cultivate the ipecac, and Vice Consul Fletcher is of the opinion that cultivation is unnecessary. In gathering the vines the best stocks are retained, the poorer stocks and broken bits being thrown carelessly to one side where they take root again. Ipecac is brought into the smaller towns of the Sinu Valley by the natives where it is gathered for shipment to the seaport of Cartagena and thence exported. The natives employed in gathering balata and chicle frequently take advantage of their idle season to pull ipecac vines. From the time the roots are turned in by the natives until they arrive in Cartagena the price doubles, high commissions, freight rates, and export tax of 7 per cent being added. Small amounts arrive at Cartagena during the entire year, but it is during the months of December and January that the trade is most active. Exports from Cartagena during 1919 included 28,071 pounds, valued at $58,167, for the United States; 1,883 pounds, valued at $2,400, for Great Britain; and 1,269 pounds, valued at $2,032, for France. Prices at Cartagena have more than doubled in the last ten years, being at that time $1.10 a pound, while to-day they range from $2.20 to $2.45.

GERMAN GRIP ON RARE SUGARS BROKEN

Germany's grip on the rare sugar industry has been broken at last by several American manufacturers who are now able to produce those costly sweets used in the detection of disease germs. At the outbreak of the European war, the group of rare sugars used in our laboratories was manufactured in Germany. The Teutons had such a hold on the processes that they were able at any time to destroy competition.

One of these sugars is of exceptional value in the detection of typhoid, as the organisms of that disease are so fond of it that they naturally select it and so multiply upon it that their presence can readily be detected. The military hospitals of the United States called upon members of the American Chemical Society to cooperate in the making of rare bacteriological sugars for typhoid work and, according to a bulletin issued by the Society, these efforts soon proved successful. Other rare sugars are used as guides in the detection of cholera germs.

Bacteriological or rare sugars require the utmost care in handling, for the presence of any impurities or of another kind of sugar renders them unfit for the precise purposes for which they are intended. This elaborate care is responsible for the seemingly enormous prices at which are rare sugars are listed. High as these costs may appear they are said to yield only nominal profits to the manufacturers. The most expensive rare sugar quoted in the catalogue is dulcitol, for which $375 a pound is asked. Mannose is worth $140 a pound.

Another sugar is mannite, derived from manna, that nutritive gum with which the Bible tells us the Children of Israel were miraculously fed during their wanderings in the Wilderness. Manna is secreted from a tree and forms in thin scales, which at certain times and under unusual weather conditions may be blown high into the air by the wind and then deposited upon the ground. The Biblical narrative recounts that the Hebrews found the bread from Heaven lying upon the earth in the early hours of the morn. As manna has a delicate and delicious taste which resembles that of a sweet wafer, it is not so good when long exposed to the air—as is also told in Holy Writ.

Xylose, held at $120 a pound, is made from the lowly corn cob. Inulin is derived from the bulbs of the dahlia, but can be obtained at only certain seasons of the year. Other rare sugare are: arabinose, for which $100 a pound is asked; levulose, an $80 a pound product; and raffinose, for which the manufacturing chemist receives $75 a pound. Only small quantities of these sugars are employed at a time in the laboratory, so they are usually sold in 25 gramme bottles, or by the ounce. An ounce of some of them would last even a busy bacteriologist a year.

HOW SAFFRON IS SHIPPED

The plant that produces saffron is an autumnal or fall crocus, so named to distinguish it from its near ally, the spring crocus which it closely resembles. It is a native of southern Europe, western Asia, and is extensively cultivated in Spain, France, Italy, and Cashmere. The product derived from this plant, saffron, is the dried orange-colored stigmas; it requires about 4,000 of these to make an ounce. The product is used in various ways —as a medicine, in the manufacture of cordials and liquors; as a coloring matter; and in parts of Europe as a flavoring and coloring ingredient in cooking.

After the harvest the saffron is packed in a crude state in matting trunks containing about 50 kilos (1 kilo=22.046 pounds) each and hauled by donkeys or ox teams to the shipping point, Verria, a town of about 20,000 inhabitants. There the trunks are loaded into freight cars and carried to Saloniki, 50 kilometers (1 kilometer=0.621 mile) away. On arriving at Saloniki the trunks are unpacked and the saffron is put through a process of refining which removes sand and other foreign substances by sifting. The product is then ready for the market. It is packed in tins and these tins in turn in wooden cases holding 20 to 25 kilos; sometimes cases of 50 kilos weight are shipped.

The saffron crop from this district is sent mostly to France. Some finds its way to England. Little is sent to the United States, which is supplied from Spain. Since 1919 American buyers have shown an increased interest in the Macedonian product, however.

WHAT EDUCATION COSTS

It costs $4,752,197 a day to run the schools; in 1870 it cost only $479,551 a day. It now costs about ten times as much per day as it did half a century ago. The annual per capita expenditure for education for each person in the total population is $7.26; in 1870 the corresponding cost was $1.64. The average annual amount for each person of school age (5 to 18) is $23.28 for current expenses and $4.30 for new buildings and grounds, making a total of $27.58. In 1870 the corresponding total cost was $5.26. The average annual cost for each child enrolled in school is $30.91 for current expenses and $5.71 for new buildings and grounds, or a total of $36.62. In 1870 the corresponding average was $9.23. The average annual cost for each pupil in average daily attendance is $41.45 for current expenses and $7.67 for capital outlays, or a total of $49.12. In 1870 the corresponding cost was $15.55. The average daily cost for each pupil attending is 26 cents for current expenses and 5 cents for capital outlays, or a total of 31 cents per pupil per day. In 1870 the corresponding daily cost was about 12 cents.

Professional & Trade Associations

N.A.R.D. MAKES RECOMMENDATIONS

Urges Repeal of Soda Water Tax, Favors Higher Prices for Prescriptions and Opposes Classification of Druggists as Liquor Dealers At Its St. Louis Convention —Text of the Resolutions

A number of important resolutions were adopted at the closing session of the convention of the National Association of Retail Druggists in St. Louis on September 24. Among the most important were: A repeal of the present governmental taxes on soda water and toilet articles; favoring an increase in the prices charged for filling prescriptions on a scale conforming to the enormous cost of conducting a retail drug business; opposing classification of druggists by the government as liquor dealers; declaring charges of profiteering against the N. A. R. D. as unfounded; favoring the elimination of the signature and address of the purchaser from a narcotic prescription; and protesting against classification of medicines as intoxicating liquors. The resolution are given in full herewith.

The convention elected unanimously the following officers: John J. Possehl, Milwaukee, Wisc., president; Elmer E. Chilson, Rochester, N. Y., first vice-president; A. W. Pauley, St. Louis, second vice-president; E. Bruce Phillip, Oakland, Cal., third vice-president; W. E. Oren, Indianapolis, Ind., treasurer; and S. C. Henry, Chicago, Ill., re-elected secretary. Members of the Executive Committee to serve three years were named as follows: J. F. Finneran, Boston, Mass., and J. A. Webster, Detroit, Mich.

Officers Installed

Following came the installation of officers, the presentation of a gold badge of office to the retiring president Theodore F. Hagenow, St. Louis, there was a recess taken until five o'clock in the afternoon, in order that the delegates might visit the Anheuser-Busch plant and partake of a complimentary luncheon. They went to and back from the plant in street cars furnished by the brewery.

At 5 o'clock the delegates met for a few moments to bid each other good-bye and then the convention adjourned sine die.

The convention had gotten ahead of its schedule at Thursday morning session, owing to the delay in some of the committees reporting, so the time was taken up by continuing the discussion of the resolutions that were offered at the Wednesday evening session, many of which dealt with the Volstead act. Nearly all of the resolutions recommended a modification or elimination of the existing laws affecting the business of the retail druggists.

Too Many and Too Frequent Changes

At the Thursday morning session, charges were made that new regulations on the sale of liquor and narcotics were so frequent that before the druggist could learn of the changes, they violated the rules.

The druggists appeared to be divided on the question of eliminating the sale of whiskey. Many claimed that they were classed as liquor dealers and that their reputations were impaired if they handled whiskey.

W. H. Wismehan of San Antonio, Texas, described to the convention measures taken by the San Antonio druggists to escape censure or legal risks that might be attached to the sale of prescriptions. He said that the druggists organized an incorporation with a capital of $2,000 and established a central pharmacy for dispensing liquor, all other druggists entering an agreement not to sell liquor themselves. Druggists who had not been accused of violation of any Federal liquor or narcotic law, were eligible to buy shares of the central pharmacy.

He stated that since the establishment of prohibition, the central pharmacy had filled 4,000 liquor prescriptions. He said that a list of prescription holders was kept and liquor was refused to any who came too frequently. He said also that if the diagnosis set down by the physician did not seem susceptible to treatment with liquor, the central pharmacy refused to honor the prescription. About 90 per cent of the 4,000 prescriptions appeared to be for a legitimate need, he said.

The narcotic act came in for considerable debate. It was claimed that rules and regulations are made so frequently and are so incoherent that each druggist needs a lawyer to avoid violating the law, the delegates charged.

Urge Use of Plain Language

Mr. Bayne, of Chicago, said that a law in plain English was wanted so a lawyer would not have to be hired by the druggist to know what the law is. Continuing he said: "We get narcotic regulations when they are a month old, with a penalty of $1,000 fine and one year imprisonment attached. We then have violated the law for a month and should be put in jail for 100 years." He declared no one knows what the narcotic laws are now.

Personality In Business

The Thursday afternoon session was short. Neis Darling, of Oklahoma, addressed the convention on "Personality in Business." The best friend that a retailer has is his competitor, Darling said, because it makes him improve his service, his goods and his methods of advertising. The cut-rate store of to-day, is an erroneous proposition in the main, because anyone can give goods away for a limited period, but it takes a merchant to sell them and render honest service. Darling kept the delegates in good humor, when he described the pharmacist dozing behind his prescription case or expending his efforts in futile activities instead of making personality the foundation of his business success. Magnetism, Darling said, was nine-tenths appearance and the remaining tenth appearance and a genuine love of humanity.

Shenlik Proves Great Success

The much talked of, mysterious Oriental Shenlik on board the steamer St. Paul, on the Mississippi River, provided by Meyer Bros. Drug Co., as part of their entertainment to the visiting delegates, took place Thursday evening and it was the one big entertainment feature of the convention.

A parade started from the Meyer Bros. headquarters, at about 4:30, preceding the boat trip. It was led by Robert E. Lee, mounted on a white horse and dressed in armor to personate St. Louis. A platoon of police followed and a band of music. Then followed President Meyer of the drug company, the officers of the company and the heads of departments and also the men and women employees. When the Planters Hotel was reached, the delegates and their ladies joined the parade and marched to the landing which was reached about 5 o'clock. Nearly 5,000 people went on the boat and as they went on board, each guest was handed a bag containing a present, and ten thousand Shenliks. This was equivalent to real money, for money was worthless on the boat.

On the boat there were Oriental dancing girls, a midway, fortune tellers, street singers, etc., and there was a continuous entertainment from the time the boat started until it landed at about 11 o'clock.

The exhibit, which occupied the entire floor of the Planters Hotel, was one of the largest and most comprehensive ever made by the manufacturers. The display represented nearly every line of drug merchandise manufactured and nearly every leading manufacturer had an exhibit. It represented a total investment of about $37,000,000 and an annual output of over $1,000,000,000.

Resolutions Adopted

The report of the resolutions committee, which finally was adopted, is as follows:

Your committee on resolutions, after carefully considering all reports and resolutions referred to them, respectfully submit the following report:

We recommend the adoption of the following:

Resolved That an appeal be made to Congress for the repeal of the present taxes imposed upon soda water and toilet articles, inasmuch as recent reports issued by the Treasury Department of the United States show conclusively that some of the taxes now levied by the government may be withdrawn without endangering the public finances.

Whereas, steps have been taken by certain individuals and organizations to petition Congress to substitute a merchandise sale tax for the luxury excess profits and similar taxes, and

Whereas, the proponents of such legislation are openly advocating the application of this form of taxation to merchandise sold at retail only, we place ourselves squarely on record as opposed to the adoption of any form of tax upon the business which is not uniformly and equitably applied to manufacturers, wholesalers and all dealers of every line of business.

Resolved, That the Commissioner of Internal Revenue be requested to modify section 110 of Regulations 35 by the elimination of the requirement that the signature and address of the person to whom a narcotic prescription is delivered must appear on the back of the prescription.

Resolved, That as the only legal way liquor can be dispensed at retail is upon the prescription of a duly licensed physician and for medicinal purposes only, we earnestly and vigorously protest against the continued classification of retail druggists as retail liquor dealers.

Resolved, That as the eighteen official preparations classified as intoxicating liquor in Regulation 60 are used solely in the compounding of physicians' prescriptions, we emphatically protest against the classification of these eighteen official preparations as intoxicating liquor, particularly as the department has ruled that these preparations will not be defined as intoxicating liquor under the new regulations regarding advertising and soliciting of orders, and call upon the commissioner of Internal Revenue to amend Regulation 60 by striking these eighteen official preparations from the list of intoxicating liquors:

Resolved, That we protest against the classification of any official preparations as an intoxicating liquor.

Resolved, That the charges of profiteering by the drug trade are unfounded and we protest against the publication of such statements and we call upon all officials of the government and representatives of the public press to ascertain the facts in all such cases before making such public statements reflecting upon the drug trade.

Resolved, That as alcoholic liquors were omitted from the latest U. S. Pharmacopoeia and such liquors may be dispensed only by druggists and upon physicians' prescriptions, and as such liquors at the present time have no standard prescribed, we petition the present revision committee to again establish standards for such liquors.

Resolved, That the Commissioner of Internal Revenue and the Federal Prohibition Commissioner be urged to modify existing regulations governing the enforcement of the Harrison and Volstead Laws, in such manner as to cause them to conform with the letter and spirit of both of these laws, as many of the present regulations are unnecessarily burdensome and restrictive.

Resolved, That we continue our efforts to prevent the enactment of all compulsory health insurance laws by the several states or by Congress.

Resolved, That we continue our efforts to secure the passage of a law, legalizing the establishment and maintenance of fixed resale prices by manufacturers for their products.

Resolved, That we conduct a propaganda similar to that carried on by the C. R. D. A. to induce young men attending high school to work part time in drug stores and receive therefor certain advantages by the Boards of Education for such work, and in this way relieve to some extent the present acute shortage of intelligent help.

Resolved, That it would he far more reasonable and just to tax a well man for his food when he is earning his wages than tax the sick and suffering when helpless and without income, and whereas Canada recently repealed the stamp tax on proprietary medicines, although Canada has a relatively larger public debt than the United States., as the result of the World War, and therefore we earnestly urge Congress to repeal the tax on proprietary medicines, and further be it

Resolved, That a copy of this resolution be forwarded to the Chairman of the Ways and Means Committee of the House and to the Chairman of the Finance Committee of the Senate.

Resolved, That the Executive Committee be requested to initiate and maintain an active campaign in behalf of the Pharmacist member on all boards of health—however constituted—and whether municipal, state or federal:

Resolven, That the N. A. R. D. heartily commend the recent establishment of a pharmacy division in the National Museum.

Resolved, That a special vote of thanks be extended to Secretary Henry and the office force at the Chicago headquarters, particularly to Mrs. Bennewitz and Miss Edith Walsh, for their loyalty, and the hard, and painstaking work they are performing for us.

Resolved, That a vote of thanks be extended to the local committee and their ladies for the successful handling of the convention, and the splendid entertainment contributed, and also to the exhibitors for their patronage and liberality in the distribution of prizes and samples, and to the hotel management for the many courtesies extended to the convention.

W. O. N. A. R. D.'S ST. LOUIS MEETING

The fifteenth annual convention of the W. O. N. A. R. D. held in St. Louis, was among the most successful of that happy and sisterly organization. The officers elected to serve for the ensuing year are as follows:

President, Mrs. S. A. Eckstein, Milwaukee, Wis.; first vice-president, Mrs. A. W. Pauley, St. Louis, Mo.; second vice-president, Mrs. Edward Ferger, Indianapolis, Ind.; third vice-president, Mrs. J. C. McCully, Wilmington, Del.; fourth vice-president, Mrs. Willard M. Fox, Cleveland, O.; fifth vice-president, Mrs. H. B. Guilford, Rochester, N. Y.; corresponding secretary, Mrs. Emma Gary Wallace, Auburn, N. Y.; financial secretary, Mrs. Nellie Florence Lee, Philadelphia, Pa.; treasurer, Mrs. John C. Otis, Cincinnati, O.

Board of Directors; Mrs. J. J. Seiberz, chairman, Louisville, Ky.; Mrs. J. H. Riemenschneider, Chicago, Ill.; Mrs. J. F. Waterhouse, Newton Highlands, Mass.; Mrs. Louis Emanuel, Pittsburgh, Pa.; Mrs. A. J. Riess, Rock Island, Ill.; Mrs. Walter H. Cousins, Dallas, Texas; Mrs. F. W. Baum, Danville, Ill.; Miss Mary Fein, Little Rock, Ark.

Among those who addressed the ladies concerning matters of vital interest to the profession of pharmacy, were President Hagenow and Secretary Henry of the N. A. R. D., and H. B. Guilford, one of the former presidents of that organization. One hundred and seventeen W. O. women registered, besides a large number of visitors. St. Louis proved to be the banner chapter, having made the greatest percentage gain in membership during the past year.

One of the important acts of the Convention, was to create Life Memberships at $25 each, for any member who wishes to take one. The outlook for the future was never brighter and a constructive program of work was outlined for the coming year.

St. Louis extended the most cordial hospitality, its ladies being untiring in their interest and care of their visitors. Mrs. A. W. Pauley was Chairman of the Committee of Entertainment for the ladies, and no details were left to chance. St. Louis will long be remembered by those who had an opportunity to attend, and those who did not, should plan to begin at once a savings fund so as to allow nothing to interfere with their attendance next year. These gatherings are of increasing importance.

One of the unique features of the St. Louis gathering was the Oriental Shenlik given on board the steamer St. Paul by Meyer Brothers Drug Co., for all of the visiting delegates. This entertainment alone cost $10,000, and upwards of 4,000 druggists, their wives, daughters, and friends, were in attendance. Nearly a thousand of the home people were left behind for lack of room. There was a feast of good things and entertainment in the form of Oriental maids, dancing dervishes, funny clowns, magicians, musicians, a Midway, and all sorts of things to please everyone from start to finish.

UNIVERSITIES UNDER SEVERE HANDICAP

Dr. Noyes Points Out That Real Development of the Chemical Industry Along Scientific Lines Can Come Only by Training Young Men and Instilling Into Their Minds the Spirit of Research

The influence which great scientists and teachers exert through their students upon the chemical development of a nation, was the main theme of the address by Dr. W. A. Noyes, head of the Chemistry Department of the University of Illinois, at the meeting of the New York Section of the American Chemical Society held at the Chemists' Club, Oct. 22.

Dr. Noyes pointed out that real development along scientific lines must come through the training of the young men. It is only by giving future scientists the proper training and by instilling into them the spirit of research, that the needs of the industries can be taken care of. Perhaps the most important feature is the acquirement of the spirit of research which is best obtained by contact with men who are not only scientists, but who have the faculty of passing on their methods of work and their enthusiasm to the younger generation.

The industrial laboratories, however great their development may be in the future, can never supply this need. In the first place, the tendency of industrial laboratories is to keep secret as far as possible any valuable discoveries. Moreover, in most industrial laboratories there is an insistence that all work be devoted to matters which promise an immediate financial reward. In the university laboratory the reverse is the case. The ruling spirit is that all discoveries are for the sake of science and they are given the widest publicity. It was the fundamental discoveries of the university laboratories which made possible the rapid chemical development along commercial lines which distinguished pre-war Germany.

Universities have been working under severe handicaps in the last few years. Their outlook for the future is far from bright. The demand for men in the industries and the higher salaries which have been paid there, have depleted the teaching staffs of the universities and it is feared have seriously damaged the effectiveness of these institutions for years to come. Dr. Noyes looks for some relief in the situation from outside aid, by state support and private endowment, but he feels that the salvation of the universities at present and for some years to come, depends upon the fact that a large number of their able men are willing to make severe sacrifices and remain in the university laboratories as teachers at a fraction of the salary which they could obtain outside. It is hardly fair to ask them to do this, said Dr. Noyes, and while the universities can probably never hope to match the industries in the way of high compensation, still the men who make the sacrifice and continue as teachers, should receive sufficient salary so that their work will not be crippled by financial difficulties or the inability to attend the meetings of scientific men.

The other address of the evening was given by Dr. H. A. Bumstead, professor of physics at Yale University, and President of the National Research Council, who spoke briefly on the work which the National Research Council had done and intends to do and emphasized strongly the point that the Council does not propose to adopt a dictatory attitude in regard to what research should be carried on or by whom. The function of the Council is merely to assist in bringing about cooperation and more efficiency in cases where such cooperation is desirable and desired.

A resolution introduced by S. A. Tucker of the Chemical Foundation, urging the National Committee of the American Chemical Society to send representatives to Washington to urge the passage of proper dyestuff legislation, was unanimously adopted.

DR. ALSBERG HEADS DRUG OFFICIALS

The Association of American Dairy, Food and Drug Officials which held its 24th annual convention in St. Louis, recently, elected the following officers: Dr. Carl L. Alsberg, Chief of the Bureau of Chemistry, president, and Dr. R. E. Rose, Florida, Thomas Holt, Connecticut, and Miss B. H. Vance, of Kentucky, first, second and third vice presidents, respectively. Dr. Cassius Clay, of Louisiana, was elected secretary, and George J. Wigle, of Wisconsin, treasurer.

Dr. W. S. Frisbie, of Nebraska, was elected to the three-year term on the executive committee and Prof. William Frear, of Pennsylvania, for one year. To fill vacancies on the committee on definition and standards Prof. L. S. Sayre, of Kansas, and Dr. R. P. Rose, of Florida, were elected. The next convention will be held at Miami, Fla.

NEW YORK BRANCH BEGINS FALL PROGRAM

Methods of informing the public in regard to the importance of pharmacy and its contributions to the general welfare were discussed by Dr. Robert P. Fischelis at the opening meeting of the New York branch of the American Pharmaceutical Association, which was held Oct. 11 at the New York College of Pharmacy.

A letter from President Frank L. McCartney was read, in which he offered his resignation, citing as a reason his removal to St. Louis and consequent inability to be present at the meetings. No official action was taken, the opinion of the members present being that matters should be allowed to go on as at present, with Vice-president William C. Anderson in charge until the next regular election of officers.

Dr. Joseph L. Mayer, one of the three delegates to the New York Pharmaceutical Conference, was chosen to represent the Branch on the new Grievance Committee of the Conference. It will be the function of this committee to act for the Conference on legislative matters of interest to the various local pharmaceutical organizations represented in the Conference.

Announcement was made by the Secretary that Dr. Edward Kremers of the University of Wisconsin, had accepted an invitation to address the Branch and had selected as the date the second Monday in November, Nov. 8. His subject will be "A quarter of a century of chemical investigation of a typically American genus of plants." A complimentary dinner to Dr. Kremers will be arranged to precede the meeting.

Dr. Fischelis, chairman of the drug trade board of public information, made the address of the evening on "Organized Publicity for Pharmacy." "Pharmacists,' said he, "have been too lax in educating the public in regard to the value and importance of their work. Plenty of derogatory and misleading articles have been published by the newspapers, which are always on the lookout for sensations, but the real advances of pharmacy have been ignored. This is the fault of the druggists who have failed to present their case." He outlined the plans of the board of public information to obtain national publicity for news which will tend to correct this state of affairs and cause pharmacy to be regarded by the public with the respect it deserves.

A similar idea has been put into effect with great success by the American Chemical Society. At first monthly bulletins discussing subjects of importance to pharmacy, which have a live news value, will be sent to a selected list of the important newspapers and suitable periodicals. Later it is hoped these bulletins can be sent more frequently and to a larger number of papers, so as to get continuous nation-wide publicity for the matters discussed. The point was stressed that all material sent out must be satisfactory to all branches of the drug business.

Prof. Arny who was to have led the discussion, was not present, but C. H. Waterbury supplemented Dr. Fischelis' paper and there was some open discussion. No objections were made to the plan as outlined.

PHILADELPHIA BRANCH

President Goodhart presided at the first meeting of the 1920-21 season of the Philadelphia Branch of the A.Ph.A., held at the College of Pharmacy on Oct. 12. Reports of the testimonial dinner given in honor of Prof. E. Fullerton Cook were presented, twelve new members were elected, and the death of Edward M. Boring, one of the oldest branch members, was reported. A committee consisting of Prof. C. B. Lowe, chairman, and J. W. E. Harrison was appointed to prepare suitable resolutions to be sent to the family of the deceased.

The evening's program started with "An Open Forum on Deletions and Additions to the National Formulary." The secretary read a communication from the Chairman of the National Formulary Committee, Wilbur L. Scoville, asking for the co-operation of the Local Branch in ascertaining those preparations which should be deleted and those which should be added. The tentative list, submitted by the Committee, was read and each one discussed. In the opinion of those present the following preparations slated for deletion have some reason for reconsideration inasmuch as they are used in some localities: Emulsion Castor Oil, Elixir Formates, Glycerite Tragacanth, Powder Kino and Opium, Tincture Iodine decolorized, Mixture Carminative, Mixture Pectoral, Petroxolin Iodine, Petroxolin Iodine Dilute, Petroxolin Guaiacol, Petroxolin Liquid, Petroxolin Spissum, Petroxolin Methyl Salicylate. It was duly moved and passed that inasmuch as not nearly all of the members were present that it would be advisable to send questionnaires to the members asking for their opinions on the list. The Secretary was directed to carry out this suggestion within the next few months.

Prof. Charles H. LaWall presented "A Review on the Test for Methyl Salicylate in Oil of Gaultheria." All the available tests were reviewed pointing out the uncertainty of most and the unreliability of all insofar as quantitative determinations were concerned. Prof. LaWall concluded by saying that there was really little use in wasting much time on trying to locate or discover an infallible test. It developed in the discussion that it would be possible to require certain impurities to be added to all methyl salicylate manufactured and in that way determine when methyl salicylate had been added to either the pure Oil of Gaultheria or the Oil of Sweet Birch.

Dr. George R. Pancoast presented a paper on "Government Narcotic Reports." He explained why the wholesaler is being so exacting in accepting narcotic orders and also commented on some of the technicalities that arise from time to time. A brief discussion followed.

J. W. E. Harrison presented the following resolution which was adopted and directed to be sent to all Philadelphia newspapers. "Resolved, that the Philadelphia Branch of the American Pharmaceutical Association go on record as opposing the illegal sale of intoxicating liquors by pharmacists and favoring such legislation as will deprive offending pharmacists from practising in this State."

The North Carolina Pharmaceutical Association has established a bureau of employment which is designed to be a clearing house between proprietors desiring clerks and clerks wishing positions in the Old North State. The bureau is operated in conjunction with the office of the secretary-treasurer of the association, Prof. J. G. Beard, Chapel Hill, N. C.

MAINE

Among the speakers at the fifty-third annual meeting of the Maine Pharmaceutical Association held at Portland and Prout's Neck on Sept. 1 and 2, were Senator Frederick Hale of Maine, who assured the druggists of his pleasure in meeting them and stated that he would be at their service in assisting the passage of any proper laws regarding their business and in any other ways that he might be able to help them; Mayor Charles B. Clark, who officially welcomed the druggists to Portland; Prof. Theodore J. Bradley, dean of the Massachusetts College of Pharmacy, who spoke on educational matters, and Eugene C. Brokmeyer, counsel of the N.A.R.D., who urged the druggists to take a greater interest in the selection of representatives in the State and National legislatures.

Reports of Dr. M. L. Porter, secretary, and A. W. Meserve, treasurer, showed that the association's finances were satisfactory. More than fifty new members were elected. Resolutions on the death of the following members of the association were adopted: Willis R. Partridge, of Augusta; Henry B. Pennell, of Portland, and W. E. Tibbetts, of Milltown. The association voted to continue in affiliation with the N.A.R.D.

The following officers were elected: President, S. L. White, Houlton; 1st vice-president, George W. Rankin, Portland; 2nd vice-president, E. W. Moore, Bingham; 3rd vice-president, H. R. Alden, Lewiston; secretary, Dr. M. L. Porter, Danforth; treasurer, F. W. Bucknam, Skowhegan; delegates to the A.Ph.A., S. L. White, Houlton, George W. Rankin, Portland, E. R. Carswell, Gorham, Dr. M. L. Porter, Danforth, and George O. Tuttle, Portland.

The entertainment program included an automobile ride to the Checkley House, Prout's Neck, where the second day's session was held, whist games for the ladies and an evening entertainment given by Charles T. Grilley, of Boston, the Harvard Male Quartette of Portland and other specialists followed by dancing.

BROOKLYN COLLEGE OVERCROWDED

The Kings' County Pharmaceutical Society met in special session October 19 at the Brooklyn College of Pharmacy, the regular meeting scheduled for October 12 not having been held because that day was a legal holiday. Appointments to the standing committees were announced by President George R. Christ.

The legislative committee report was presented by Dr. William C. Anderson, chairman, and dealt with the rulings of the State Excise Department and the Federal Internal Revenue Departments on the handling of alcohol, alcoholic liquors and narcotics by druggists. Dr. Anderson said the rulings are daily becoming more and more stringent, although he gave the society to understand that under a modification of the withdrawal order, the Internal Revenue Department will permit the issuing to druggists of alcohol in sufficient quantities for legitimate manufacturing purposes.

The report of the Supervision Committee of the Brooklyn College of Pharmacy was presented by Thomas J. France, chairman. He said the college had an enrollment of 428 students, and that many had been refused admission because there was not room to accommodate them. He said he thought the Brooklyn College and all others would be taxed beyond their capacity for the next four or five years.

The report of the Trade Matters Committee dealing with propaganda on U.S.P. and N.F., brought on a general discussion. The majority of those present favored the continuance of the work, the purpose of which is to increase the use of the U.S.P. and N.F. by physicians. A substantial sum was appropriated, without a dissenting vote, to continue the propaganda work.

Schools and Colleges

NEW YORK

Chairman Henry C. Lovis in opening the first regular meeting of the ninety-first session of the New York College of Pharmacy, held on the evening of Oct. 19, called attention to the large enrollment of students this year, the student body numbering 519, while about 50 applicants had to be refused admission due to lack of facilities. This large registration in view of the higher pre-requisite requirements for admission was considered as most encouraging. Prof. Hostmann asserting that even if a full high school course was the pre-requisite, the New York C. P. would still make a good showing, as more than half of the enrolled students are graduates of high schools or holders of certificates showing equivalent attainments.

Dr. H. V. Arny, reporting for the delegates to the United States Pharmacopoeial Convention which met in Washington last May, referred to the efficiency of the present Revision Committee, the sub-committee on scope having organized and started to work while the Convention was still in session. He predicted that if the committee should continue to work as rapidly and with the same efficiency it had so far done, the new Pharmacopoeia would make its appearance within a couple of years.

Dean H. H. Rusby, who represented the college at the meeting of the American Conference of Pharmaceutical Faculties reported that the Conference was working harmoniously with the National Association of Boards of Pharmacy, and remarked that he did not think the Conference schools would suffer a loss of students due to the gradual raise of pre-requisite requirements.

Dr. George C. Diekman, delegate to the New York Ph. A. meeting, reported on the work done by that organization, and Dr. C. P. Wimmer, who represented the college at the meeting of the Connecticut Ph.A., told that the pharmacists of that State were contemplating the establishment of a school of pharmacy, possibly at Yale University. Prof. Hostmann told the members that the New Jersey Ph.A. held the New York C.P. in the highest esteem, and that that organization was the first State pharmaceutical society to hold a golden jubilee meeting, the celebration of which took place at Newark last June. An interesting incident of the New Jersey meeting, he said, was the fact that the association had selected Edward A. Sayre, a charter member, to preside at the fiftieth session, a proceeding that most associations would find it difficult, if not impossible, to duplicate.

MASSACHUSETTS

The enrollment of the Massachusetts College of Pharmacy for this session is the largest in the history of the school, as it already exceeds somewhat the total of last year. There are 321 students registered, including 147 new students and 49 girls, coming mostly from homes throughout New England, with a few from other states and foreign countries.

The portrait bust in bas-relief of George Robert White,

A view of one section of the drug garden of the Buffalo College of Pharmacy, described in the last number of the Era, page 301. This picture was kindly furnished to us by Dean Willis G. Gregory, whom the camera has caught while on a tour of inspection through the garden.

the donor of the college building, the work of the noted sculptor, Daniel Chester French, is now completed, having been refinished in bronze, instead of the original gold. Massive bronze andirons, in the shape of erect lions, have been put in the great fireplace in George Robert White Hall. They are the work of Sydney Woolett, the Boston sculptor, who designed the impressive bronze doors at the main entrance of the building also.

FORDHAM UNIVERSITY

At a reorganization meeting of the Fordham University College of Pharmacy, Class of 1921, the following were elected officers:—Daniel F. O'Sullivan, Jr., president; Irving Harwood, vice-president; Harry Israels, secretary; Augusta Litvin, treasurer; Joseph Regelson, reporter.

The purpose of the class organization is to promote good-fellowship among its members, and to contribute to the progress of ethical pharmacy.

MARYLAND STATE UNIVERSITY

The opening of the Department of Pharmacy last month as a full-fledged unit of the University of Maryland with its more than one hundred years of continuous existence, marked the beginning of a new era of pharmaceutical education in the State. The merger places the department on an equality with the other divisions of the university, the consolidation providing more adequate means for the school of pharmacy to take up activities which were previously impossible for lack of funds or proper equipment and at the same time, greatly augmenting the prestige of the school.

As constituted now, the faculty of the department of pharmacy consists of thirteen members, with Dr. E. F. Kelly, as dean. Dr. David M. R. Culbreth, who for years held the chair of materia medica, botany and pharmacognosy, has been made professor emeritus at his own earnest request, and much of his work will be done by other members of the faculty. Another old instructor and alumnus, who has withdrawn is Dr. Daniel Base, professor of chemistry, whose place will be taken by L. B. Broughton, M. S., from the department of chemistry. Dr. Base has joined the staff of Hynson, Westcott & Dunning, manufacturing chemists, and is carrying on advanced pharmaceutical research work. Dr. Henry P. Hynson, will, during the coming session, confine himself to lectures on store practice and service, while W. M. Cutchin, professor of business administration, will have charge of instruction in systems of accounting and other financial matters. Mr. Cutchin is a graduate in pharmacy, as well as an expert accountant. Miss Olive B. Cole, a graduate of the department of pharmacy and who for several years has held a position in Washington, has been made associate professor of botany and materia medica, and will in addition discharge the duties of secretary and treasurer, as assistant to the dean. Other changes are the appointment of H. E. Wich as assistant professor in chemistry, and of J. C. Krantz, Jr., as assistant professor in pharmacy. The other members of the faculty are J. Carlton Wolf, professor of dispensing; Charles C. Plitt, professor of botany, materia medica, pharmacognosy and vegetable histology; Louis E. Burger, lecturer on pharmaceutical jurisprudence; Robert L. Mitchell, professor of physiology and hygiene; H. J. Maldeis, professor of bacteriology, and George A. Stall, demonstrator in dispensing.

The new arrangement provides three full time professorships in the department of pharmacy and who will give their entire services to the university. The school is registered in the New York Department of Education and other States which maintain a registration bureau, and also holds membership in the American Conference of Faculties.

PHILADELPHIA

At the semi-annual meeting of the Philadelphia College of Pharmacy and Science, held Sept. 27, the following preamble and resolution was unanimously adopted, and the secretary instructed to send copies of the same requesting publicity to the City press, City and National prohibition officials, City and State medical associations, and the pharmaceutical press. The resolution is as follows:

> The correction of alleged abuses in the drug and apothecary business was the principal reason assigned for the meetings of Philadelphia apothecaries in historic Carpenters Hall in 1821, that resulted in the incorporation of the Philadelphia College of Pharmacy. Since its inception this institution has always maintained the highest ideals of the moral obligation and the professional responsibilities devolving upon pharmacists, in the discharge of their duties to society. It has aimed to inculcate in its students and members a code of ethics in keeping with these ideals.
>
> The laws enacted by Congress and the various Legislatures for the purpose of limiting the sale and dispensing of narcotic drugs and alcoholic beverages to strictly medicinal uses, have placed additional and grave responsibilities upon the pharmaceutical profession and the drug trade. Alcohol is the most important raw material of the drug and chemical industries and of necessity, in one way or another, enters into practically every operation of the pharmacist. It is the opinion of this College that the dispensing of all potent drugs, including narcotics and alcoholics, should be restricted to bona fide medicines and that the distribution of these should be exclusively a part of the professional duty of registered pharmacists.
>
> The Philadelphia College of Pharmacy and Science realizes that with its amended charter and wider educational scope it retains fully its position of responsibility as the oldest pharmaceutical society in America and as a leading exponent of professional pharmacy.
>
> Be it Resolved by the members in meeting assembled that they call upon every pharmacist to maintain faith with the Government and to demonstrate by his strict observance of the narcotic and prohibition laws that the confidence of Congress and of the Legislatures in the integrity and honor of the pharmaceutical profession has not been misplaced. We denounce infractions of these laws not only as a menace to public welfare but likewise as inimical to our entire profession and believe that the violators who thus debase their calling merit the extreme penalties of the law and elimination from pharmaceutical associations and practice.
>
> The physicians present endorse these resolutions and pledge hearty cooperation in carrying out the provision mentioned.

Professor Robert P. Fischelis, lecturer in commercial pharmacy and consulting chemist of Philadelphia, has removed his business offices to 250 Madison ave., New York City, where he is specializing on investigations of markets and sources of supply for chemical and pharmaceutical products and the preparation of professional literature He will continue as a member of the faculty and as director of the technical department of the Matos Advertising Co., of Philadelphia. He has also been retained by the National Research Council to assist in securing the support of the chemical industries in publishing an American volume of critical tables of physical and chemical constants.

Professor Cook, chairman, has formulated the campaign of the Centennial Committee, whose headquarters are adorned with comprehensive plans, maps and graphs, showing the magnitude of the work the committee has undertaken.

New additions to the faculty are Mr. Dunn, B.Sc., a graduate of the University of Pennsylvania, assistant to Prof. Youngken in botany and pharmacognosy, and Luther Buehler, P.D., '17, assistant to Prof. Cook in the pharmaceutical laboratories.

Mrs. Millicent Renshaw LaWall, wife of Dean LaWall, has accepted an appointment on the teaching staff of the Women's Medical College. Philadelphia.

The faculty held its initial meeting at the Engineers' Club on the evening of Sept. 28. A program for future meetings was outlined, and Dr. Henry Leffmann, of the research department, gave much valuable information relating to plans for the advanced pharmacy courses.

Prof. Cook, chairman of the U.S.P. Revision Committee, has removed his office from the college to the Chambers Building, 636 Franklin Square. Dean LaWall has a laboratory in the same building.

Dr. J. W. Sturmer, a motor enthusiast who recently acquired a new machine, wound up his vacation days with a trip from Kokomo, Ind., his former home, to Anopheles, N. J., where he now resides. He reports an uneventful trip made notable only because his new car "The Stingaree," consumes less gas than a motor cycle, and like a camel, can go two weeks without a drink.

CINCINNATI COLLEGES AMALGAMATED

The amalgamation of the Queen City and the Cincinnati colleges of pharmacy has been announced and the joint classes are being conducted in the building of the Cincinnati College of Pharmacy on West Court Street.

The Cincinnati College of Pharmacy is one of the oldest colleges of pharmacy in the United States, having been founded in 1850, and was the first to be established west of the Allegheny Mountains. It has graduated nearly 2,000 students, and a list of its officers and faculty embraces many names which rank high in the history of American pharmacy. The institution was conducted as a corporation for many years, but some years ago all the stock passed into the hands of Professor C. T. P. Fennel, son of Professor Adolph Fennel, one of the founders, who had been teaching in the institution for many years.

The Queen City College of Pharmacy was founded by Dr. Frank Cain in 1912 and became a part of Lebanon University two years later. When the charter of that institution was taken over by Wilmington College the control of the Queen City College was also taken over, and it has been conducted in Cincinnati as the school of Wilmington College since that time. Dr. Cain was succeeded as dean by Dr. Caswell A. Mayo, formerly of New York, and it was largely through his efforts that the amalgamation was effected.

With the co-operation of Professor Fennel, the Ohio Valley Druggists Association has begun a campaign to raise sufficient funds to take over the college and to furnish a permanent endowment.

UNIVERSITY OF MINNESOTA

The enrollment for the first quarter went over 110 which exceeds by thirty per cent the maximum capacity originally intended for the present pharmacy building. There are thirty young women among the enrolled students, fourteen being freshmen. Only one special student has been accepted. The number of matriculants for the four-year course is continually increasing, seven of the freshmen having matriculated in that course. It is also noted that the number of students seeking advanced standing in the college is increasing. About a dozen such are in attendance now.

The annual freshman-junior scrap occurred on October 12. The freshmen succeeded in capturing and hiding for a time, the junior president but later the upperclassmen captured practically all of the freshmen, painted them green and paraded them through the campus. Later a compromise was reached whereby the upperclassmen modified their demand that the freshmen wear green caps and accepted the freshmen proposal that the new students wear green ties instead. Everything was done in an amicable college spirit and peace again reigns serenely.

The entire student body of the college organized itself into an association under whose auspices the next All-University dance and entertainment will be given in the armory. The date has not yet been set. The officers of the association are: John H. Blair, president; Miss Beulah Nisbett, vice-president; Edwin Leiby, secretary and treasurer.

The college of pharmacy student council was organized

A view of the line-up of the freshmen class on its arrival at the drug garden of the Buffalo College of Pharmacy, recently established in South Park, Buffalo. The garden is now in its second year, and as an adjunct to the teaching facilities of the college, has already become a recognized feature of the institution.

early in October by the entire student body and elected the officers of the association to be officers of the council with the addition of senior L. F. Walechka, who was elected college council representative to the All-University Student Council.

Among the students is Sister Rose Catherine, a college graduate possessing the degree B.A., who comes from the St. Mary's Hospital to take up work in the three-year course.

L. Peters, Ph.G. from the Philadelphia College of Pharmacy, has been appointed laboratory assistant under D. D. Turner.

Charles Winzenburg is too ill to return to school this year. The student body and faculty are looking forward to his return next year by which time it appears certain that Mr. Winzenburg will have fully recovered.

Miss Verle Bryan, senior pharmacist, was appointed as scholar to assist Professor Rogers in the freshman and junior laboratories. Miss Bryan's appointment began October 1 and will continue until July 1. Miss Ruth Jones has been appointed scholar to assist Dr. Newcomb in the department of pharmacognosy.

D. D. Turner is rapidly recovering from his recent mishap of fracturing his right wrist.

.Former President Burton was inaugurated as President of the University of Michigan on October 14, 15, 16. University of Minnesota President Coffman attended the inauguration as University representative.

E. B. Pierce, registrar on the main campus of the University for many years, recently resigned his position to succeed E. B. Johnson who retired as secretary of the General Alumni Association. Mr. Pierce was also made Field Secretary of the University. R. M. West, formerly registrar of the University Department of Agriculture, was made successor to Mr. Pierce, the position being enlarged to include the registration for the Department of Agriculture, so that from now on, there will be only one University Registrar, and he is Mr. West.

G. H. Hayes, University Comptroller for a number of years, recently resigned his important position to devote his time to private business. A. J. Lobb, former assistant to President Coffman and assistant professor of Political Science, was appointed by the Board of Regents to succeed Mr. Hayes.

The Theta Chapter of the Phi Delta Chi entertained the members of the State Board of Pharmacy at dinner on the evening of October 13 and gave a smoker to their friends on the evening of October 15.

Dean F. J. Wulling has been quite active in the organization of the Minneapolis Division of the National Safety Council. The work of the Division is being done by about fifteen committees. The chairmen of these committees constitute the Supervisory or Executive Committee of which Dean Wulling is chairman.

Dean Wulling addressed an audience of about seven hundred members of the Citizens Auxiliary at a meeting in the assembly room of the courthouse on Monday evening, October 18; a group of traffic men at Dayton's tea rooms on October 14; a public meeting of parents and citizens at the West High School and a large group of women at the Radisson Hotel early in the month. He also addressed the Men's Club and the Women's Social Circle of the Church of the Redeemer on the evening of October 20.

OREGON AGRICULTURAL COLLEGE

Maynard Sawyer, junior in pharmacy, has been elected president of the Pharmaceutical Association at Oregon Agricultural College, Corvallis. Other officers chosen are: vice-president, Loretta Becker; secretary, Opal Hewitt; treasurer, Harry Miller; sergeant-at-arms, Virgin Frink. The association has 165 members.

UNIVERSITY OF IOWA

Dr. L. K. Fenlon, Ph.G. '14, M.D. '19, and Miss Lois D. Wichman, daughter of Mr. and Mrs. J. E. Wichman, of Garner, Iowa, were married on Sept. 1, They will make their home at Clinton, Iowa.

Henrietta Martin, ex '21, and Victor August Hoersch were married at the home of the bride's parents, Sayre, Okla., on Sept. 6. Mr. Hoersch who was instructor in physics at the university last year, is now teaching physics at the University of Oklahoma, Norman.

Recent visitors at the college; C. C. Hazard, '20, now with the Schlegel Pharmacies, Davenport; W. K. Schafer, '21, of Fort Madison, who was in the University Hospital a short time for the removal of his tonsils; C. L. Parsons, Davenport, Iowa; C. W. Williams, '13, pharmacist at the Soldiers' Home, Marshalltown; Ernest Simpson, '11, city salesman for Hartz & Bahnsen Co., Rock Island, Ill.; Benjamin Greenblatt, '17, '20, of Rock Island, and W. A. Konantz, '16, 17, chemist for the Monroe Color and Chemical Co.

Recently located; L. T. Ford, '02, at 1508 N. LaSalle st., Chicago; W. C. Swann, '99, at 116 S. Second st., Clinton, Iowa, and E. C. Ryan, '17, at Creston, Iowa, with one of the Brennan drug stores.

SOUTH DAKOTA STATE

The school of pharmacy of South Dakota State College has capacity classes this year, and students were turned away because they could not be accommodated and the high standards of the school kept up.

The State board of pharmacy and the State pharmaceutical association are both advocating a law requiring at least two years of collegiate work of all applicants for registration. The law now requires nothing beyond high school training with the usual experience.

The smallest class of applicants for registration as pharmacists in the past decade or more was examined by the State board of pharmacy in session at Brookings on Oct. 13 and 14. There will probably be no other class until next May, when twenty students of the school of pharmacy will take the examination, with a number of out-state applicants.

O. C. P. STUDENTS ELECT OFFICERS

The students attending the Ontario College of Pharmacy at Toronto, Canada, this year held an organization meeting recently for the purpose of electing officers for the year 1920-21. The following were elected: Hon. Pres., Dean C. F. Heebner, Ph.G., Phm.B.; Hon. Vice-Presidents, Mrs. M. E. Sullivan, Arthur; Miss U. K. Stewart, Cornwall; President, Harold Parke, Hamilton; Vice-President, D. P. Meeking, Barrie; Secretary, H. A. Rooney, Sarnia; Treasurer, E. P. Kelly, Peterboro'; Committee: Miss Joan McKeown, North Bay; L. C. Waters, Norwood; P. H. Ament, Brussels; G. Coulter, Chatham; A. J. Armstrong, Ottawa.

DR. DIAZ TO INVESTIGATE LABORATORIES

Laboratories of schools of pharmacy in Europe will be studied by the professor of practical pharmacy in the University of Habana, Dr. Guillermo Diaz y Macias, who has been commissioned by the Cuban Government for that purpose. His observations will be reported to the school of medicine and pharmacy of the University of Habana.—*School Life.*

Prof. Ruth Okey, of the University of California, Berkeley, Cal., has succeeded in isolating inulin from the California artichoke of commerce. This substance was formerly thought to occur only in certain bulbs and roots, such as Jerusalem artichokes and dahlia bulbs. Its suitability in treating diabetes is being investigated.

Educational Department

Devoted to Information, Criticisms and Suggestions on Pharmaceutical Topics of Special Interest to Era Course and Other Students.

Conducted by C. VERNE NICHOLS, Ph.C., B.A., M.S., Director of the Era Course in Pharmacy.

THE BACKGROUND OF PHARMACY

No one wants to work all the time and it isn't good for physical or mental health to do so. Relaxation of some sort is essential. Different people take their relaxation in different ways, but nearly everyone likes to put in some of his or her time reading. There is a tremendous amount of really interesting reading which bears on pharmacy and which will pay dividends in information as well as in amusement. Leaving out the class journals, which every man who wishes to keep up in his profession must read, there are many non-technical or semi-technical subjects related to pharmacy which you will enjoy looking into. Perhaps the most fascinating is the history of pharmacy and particularly that of the period of the Alchemists. They laid the foundation of modern pharmacy, though you may hate to admit it when you read some of their prescriptions. In addition they picturesquely combined the functions of doctor, chemist, physicist, geologist, metallurgist, faker, poisoner and blackmailer, and the literature in regard to them is quite abundant and more interesting than most novels. Then there are the stories of the modern drug hunters in which science and adventure join forces to interest the reader. Other subjects equally attractive will soon suggest themselves to the student who begins exploring the historical background of pharmacy, and he will be led on and on into a field, the existence of which he had hardly realized.

ANSWERS TO OCTOBER QUESTIONS

1. What is the difference between oil of wintergreen and methyl salicylate?

Oil of wintergreen is mainly methyl salicylate but contains a small amount of an inert substance which is not present in the synthetically prepared methyl salicylate.

2. From what source is cream of tartar obtained?

Cream of tartar is prepared by extraction from argols, a by-product of the wine industry.

3. What is the chemical name of urotropin? How is it made?

Hexamethylene tetramine. Formed by an interaction between ammonia and formaldehyde.

4. Exactly what is meant by the term "synthetic drugs"?

"Synthetic drugs" are manufactured by chemical means from the raw materials as distinguished from those drugs obtained from natural sources.

5. Name the official alkaloids obtained from opium.

Only morphine and codeine are official.

6. Why is cod-liver oil such a valuable body-builder?

The value of cod-liver oil is generally claimed to be due to its high content of nutrient material, which being more easily digestible than many other fats, is readily assimilable when taken into the human economy. Medical opinion differs as to the therapeutic importance of the infinitesimal amounts of iodine, sulphur, etc., known to be present in the oil.

7. What is the significance of the term "pyro" in the name of a chemical compound?

It means usually that the substance is obtained by heat from another compound. For example, pyrogallic acid is obtained by heating gallic acid.

8. What is the difference between chalk and limestone?

Chalk and limestone are chemically identical, consisting of calcium carbonate, but chalk lacks the crystalline nature of limestone.

9. How is the strength of a sugar solution determined?

By determining the degree of rotation in a polarimeter. The rotation is proportional to the strength of the solution and the thickness of the layer tested.

10. Explain why the barometric pressure is lower in damp weather.

Barometric pressure is the actual weight of the air over the place at which it is measured. When the air is diluted with the lighter water vapor, as is the case in damp weather, the pressure is naturally less.

11. What is meant by a "cold-pressed" oil and why is it more valuable?

A "cold-pressed" oil is obtained when the pressing is done at ordinary temperature without the application of heat. The yield is less but the oil is lighter colored and will usually keep longer.

12. What is meant by the term "refractive index"?

The refractive index is one of the physical constants used to identify many liquids, particularly the oils. The test is based on the fact that a ray of light passed through different mediums is bent or refracted to varying extents.

13. What is the source of lanolin?

Lanolin is purified wool-fat and is obtained as a by-product of the wool-scouring industry.

14. Name three substances other than lanolin that are used as bases for ointments.

Goose-grease, lard and petrolatum.

15. What is the chemical difference between cane sugar and lactose?

Cane sugar gives a mixture of glucose and fructose when hydrolyzed; lactose gives glucose and galactose

16. What is the chemical nature of saccharin?

Saccharin is not related to the sugars but is a coal-tar derivative based on toluene, a substance closely similar to benzene.

17. Distinguish between lotions and mixtures and liniments.

Lotions differ from mixtures in being intended for external use and from liniments in being aqueous rather than alcoholic or oleaginous.

18. Give the general processes for the preparation of fluidextracts.

Percolation with partial evaporation; fractional or divided percolation; repercolation; percolation with incomplete exhaustion; maceration with hydraulic pressure.

19. What is bone-oil? Name its principal constituent.

Bone-oil is the oil obtained by the destructive distillation of bones in a closed retort. The principal constituent is pyridine.

20. Write the reaction for the preparation of boric acid from borax.

$$Na_2B_4O_7+5H_2O+2HCl=4H_3BO_3+2NaCl$$

21. From what sources is iodine obtained?

Iodine is obtained partly from sea-weed and partly from sodium iodate, which is found in small amounts in crude Chili saltpeter.

22. Why does an aqueous solution of potassium iodide become discolored on standing?

Potassium iodide is not entirely stable in aqueous solution, particularly under the action of light, and sets free some iodine.

23. Why must an aqueous solution of chlorine be kept in the dark, if at all?

Chlorine reacts rapidly with water in sunlight, forming hydrochloric acid and setting free oxygen. The bleaching action of chlorine depends on this reaction.

24. What is a deliquescent substance?

Crystalline substances which have such an affinity for water that they will absorb it from the air are called deliquescent.

25. What is a hygroscopic substance?

Certain amorphous bodies and liquids behave similarly to deliquescent substances and are said to be hygroscopic. Textile fibres, for example, are more or less hygroscopic

26. What official drugs contain chrysophanic acid or related compounds as active constituents?

Rheum, frangula, cascara sagrada, senna, aloe, aloinum, chrysarobin.

27. What substance found in coal tar is chrysophanic acid a derivative of?

Anthracene, $C_{14}H_{10}$. This compound is also important as a source of many valuable dyes.

28. What dangerous impurity may be present in calomel? How does it get there?

Corrosive sublimate. The action of light on calomel may cause the formation of some corrosive sublimate. The reaction is: $2HgCl=HgCl_2+Hg$.

29. How is corrosive sublimate tested for in calomel?

The most simple test is to add water to the calomel and test the resulting solution with ammonia for mercury.

30. What chemical elements are liquid at ordinary temperature?

Bromine and mercury.

31. What is the relation between cresol and carbolic acid?

Phenol is the mono-hydroxy derivative of benzene. Cresol is also a benzene derivative but contains both the hydroxyl group and a methyl group.

32. How do cresol and creosote differ?

Creosote is a complex mixture containing cresol, phenol and several other similar substances, as well as some that have not yet been identified.

33. Into what three classes may incompatibilities be divided?

Pharmaceutic, chemical and therapeutic incompatibilities.

34. What is elutriation?

The process of separating the finer from the coarser particles of an insoluble powder by washing.

35. What emulsions are official in the U.S.P. IX?

Emulsion of asafetida; emulsion of almond; emulsion of cod-liver oil; emulsion of oil of turpentine.

36. Name the usual emulsifying agents.

Acacia, tragacanth and Irish moss.

37. Suppose you have a stock solution of potassium acetate, 25%. How would you make up 8 ounces of a 12% solution?

Three ounces and seven drachms of the stock solution made up to eight ounces with water.

38. Why is iodine soluble in a solution of potassium iodide when it is not soluble in water?

Iodine combines with potassium iodide in aqueous solution to form an unstable, complex compound which is readily soluble.

QUESTIONS FOR NOVEMBER

1. How is the strength of peroxide of hydrogen solution stated and determined?

2. What is "Lambkin's Cream"?

3. What is hydrargol?

4. What is hydrargyrol and what are its properties?

5. What is the chief therapeutic use of iron?

6. What is meant when it is said that two substances are isomorphous?

7. What is the active substance of oil of chenopodium? For what disease is the oil recommended as a specific?

8. What are the crystals that form in a bottle of oil of bitter almonds after long standing?

9. What is oil of mirbane?

10. Why does the Pharmacopoeia insist that gm. shall be written gramme and not gram?

11. Would you figure the freight and cartage on a lot of goods as part of the cost or part of the overhead expenses?

12. If an article is sold at a list price of $4.50 less discounts of 20, 10 and 5, what is the net cost to you provided the discounts are taken?

13. Should net profit be figured on the selling price or on the cost of an article?

14. Suppose an article cost $1.00, the overhead or cost of doing business is figured at 30% and a net profit of 15% is desired. What price should be marked on the article?

15. What is meant by "turn-over"?

16. What National Formulary processes employ anise as an ingredient?

17. What proportion of resin of podophyllum U.S.P. is soluble in ether?

18. What is elaterium and what tests would you employ to determine the absence of starch and chalk as adulterants?

19. What official substances are derived from the following plants: Dryopteris marginalis, Garcinia Hanburii, Pistacia Lentiscus, Artemisia pauciflora?

20. What is cardamom and name some of the commercial varieties?

21. (a) What part of cardamom fruit contains the active and valuable constituent? (b) What kind of dehiscence has the cardamom capsule?

22. What is the drug known as "grains of Paradise"?

23. What are the constituents, properties and uses of "grains of Paradise"?

24. What part of the plant Arnica Montana is official, and what are the chief constituents of the same?

25. What adulterants would you look for in a sample of Arnica Montana?

ERA COURSE STUDY A PLEASURE

Director, Era Course in Pharmacy:

I am returning under separate cover Lectures VII and VIII of which I have already received copies. I am now studying Part VII. May I take this opportunity of expressing to you my appreciation of the Course? Its study is truly a pleasure.

SISTER JULIA CASSELLS.

Seton Infirmary, Austin, Texas.

Women in Pharmacy

CONDUCTED BY EMMA GARY WALLACE

AROUND THE CIRCUIT

Mrs. Nellie Florence Lee, financial secretary, is on an extended trip through the Middle West, and will visit many of the Chapters in that territory.

Mr. and Mrs. Julius Riemenschneider and son Robert, left St. Louis for Los Angeles, Cal., immediately following the N. A. R. D. and W. O. N. A. R. D. Conventions. The recent accidental death of their lovely young daughter, has been a great shock to this family, and Mrs. Riemenschneider writes in reference to the journey:

"We had planned the trip at a pace which would keep us so busy that we would not have time to think; have spent the entire time since our arrival in an auto, and have seen more in the length of time than I ever dreamed humanly possible. Have covered the state of California, beginning over the line in Old Mexico and reaching the Oregon line on the North. Have seen Portland and Seattle, and will leave for Minneapolis tomorrow, and then home. We have scarcely allowed time enough to sleep and begin to be quite worn out. Almost wish we could stay in this part of the country for a time."

Chicago Chapter, W. O. N. A. R. D., No. 2, held its first meeting of the calendar year at the Morrison Hotel, Tuesday, Oct. 12th. There was a goodly attendance and much interest. Reports of the Convention were heard and a social hour enjoyed.

Sympathy is extended to Mrs. Adolph Umenhoffer, of Chicago, upon the sad occasion of the death of her husband. Mr. Umenhoffer was a prominent figure in pharmacy in Chicago, having served as the president of the C. R. D. A. The widow, two sons, and a daughter survive him. Mr. Umenhoffer had also been active in the State Pharmaceutical Association. His personality was felt wherever he went and his loss is one that will not be easily replaced. The writer recalls a happy ride of many miles with him enroute on the return from the New Orleans Convention.

The first meeting of the Queen City Chapter, No. 5, W. O. N. A. R. D., was held Oct. 13th, with a large attendance and much enthusiasm for the fall and winter. One of the main topics of interest was the St. Louis Convention and what had been accomplished by that gathering. Cincinnati plans some interesting work of her own during the months to come. The women in pharmacy take a special interest in the union of the Queen City and Cincinnati Colleges of Pharmacy, as their interest was so long focused upon the latter because one of the W. O. scholarship students is a graduate of that institution and received great kindness and thorough training at the hands of the faculty and Dr. Cain. Best wishes are extended to the new institution and felicitations offered to the new faculty.

Mrs. Thomas L. Davis of Montgomery, W. Va., is a member of the newly incorporated Davis Pharmacy of that place, an enterprise which expects to do both a wholesale and retail drug business.

The Smith Drug Store of New Orleans, La., of which Mrs. David Smith, formerly Miss Rosa M. Breen, is proprietor, is being brought up-to-date by means of new fixtures and a thorough remodelled prescription department.

Mrs. Margaret Jahn, the proprietor of a pharmacy at the corner of 7th and Carondelet Streets, New Orleans, has recently been elected a member of the American Pharmaceutical Association. Her store, like her service, is always shining and always ready to serve.

Mrs. P. A. Capdau, widow of Mr. Capdau, known in New Orleans during his life time as the dean of local druggists, is managing the business successfully, and finds that it takes up her time and attention, and keeps alive the old interest which meant so much to her.

Sympathy is extended to Mr. and Mrs. P. H. Peterson and family of Minneapolis, Minn., upon the sad occasion of the death of their sixteen year old daughter, Gladys Lucille. Miss Peterson suffered from a severe attack of typhoid fever and succumbed to its ravages.

Congratulations are extended to Louis George Lafleur, of New Orleans, and best wishes extended to Miss Fay Stumpf, upon the occasion of their recent marriage in that city. Mrs. Lafleur is the daughter of Mr. and Mrs. Chris L. Stumpf, both long associated with the city's progressive interests.

The women of the W. O. mourn over the death of Julius D. Bone, of Dunmore, Pa. and sympathy is extended to the members of the family. Those who were in attendance at the early Conventions of the W. O. N. A. R. D. will remember how earnestly Mr. Bone addressed them upon the subject of Sunday Rest and Shorter Hours. This veteran in the field of Pharmacy, always stood for the best, and never failed to have the courage of his own convictions, even if he stood alone. He championed temperance and the observance of the Sabbath when these were not popular subjects. Happily he lived to see the great American public swing around to his side—because it was the right side. Mr. Bone is survived by his widow, two daughters, and a son.

Mr. and Mrs. Frank Rohraman of Philadelphia, attended the Federal Druggists' Association meeting at Denver, Col.

The new owners of the Lovelock Pharmacy, of Lovelock, Nev., are Lee and Irma Wilson.

Miss Marion E. Shott, the well-known woman pharmacist of Avondale, has taken out formal membership in the Ohio Valley Druggists' Association.

A clever advertising stunt on the part of exhibitors at the St. Louis, N. A. R. D. Convention, was to write a personal letter to each of the drug folks who registered for rooms at the Planters Hotel and other near-by hostelries. Identification of these guests was made easy through the Reception Committee, and those so intending to visit St. Louis, received numerous letters before they left home from the exhibitors. These were written in a chatty, cordial style, and most of them promised a souvenir or threw out the pleasant remark that a little gift was being held at such and such a booth for the recipient of the letter. Naturally the people receiving such letters and the ladies especially, made a point to go where they had been invited, and special preparations made for their coming.

This is an excellent idea, for at the last Convention or two, some exhibitors have felt that there was so much of business and entertainment program, that they had to take the left-over time. This plan is sure to insure early attention.

It is often remarked that druggist folks get tired of the long hours of the pharmacist and long for a change once in a while. But it is noticeable that few of them are satisfied out of the business, and most sooner or later usually return to the fold.

Mrs. Ella P. Meyers who graduated from the Pittsburgh College of Pharmacy, in 1916, has recently sold her drug store at 6407 Frankston Ave., to R. A. Pierce who graduated from the same school this year. For the present Mrs. Meyers is going to conduct a poultry farm in Virginia, but how long she will be satisfied away from the fascinations of pharmacy, remains to be seen.

The White Drug Store of 416 Hayes St., San Francisco, conducted by Mrs. R. E. White, has secured the services of Mrs. W. H. Dundas, formerly Pauline Nast, who is well-known in that city as one of the foremost women pharmacists on the coast.

Fifty per cent of the hospitals in New York have women pharmacists in their laboratories, and yet there were only twenty-six girls in the graduating class this year and more than three hundred young men. It certainly looks as though some active propaganda work ought to be done to call the attention of young women of ability to the opportunities which there are in pharmacy. Other professions are making a definite effort to attract young people of promising intellect. Why should pharmacy not be on the job?

Not long since M. S. Harris of Ponchatoula, La., passed away, and since that time, Mrs. Harris has been conducting her husband's drug store successfully. Ponchatoula is in that district known as Tangipahoa Parish, where Mrs. G. F. Goldsby of Amite, has long conducted her own drug store with success to herself and satisfaction to the public.

The Berner Drug Store of Waynesville, N. C., is fortunate in having the services of Miss Louise Berner and Miss Annie Bruseau. Each one has built up an individual following of her own to the permanent enrichment of the store.

Mrs. Lena Behrens conducts a high-class drug store in Los Angeles. It is known as the Liberty Pharmacy, and enjoys an excellent reputation among the careful, conservative physicians of the city. Mrs. Behrens has achieved the position she now accupies through hard work and having a goal. As a child, she was greatly interested in watching the old family doctor when he prepared powders or medicines for her family.

According to *Tile and Till*, she was driving into Louisville, Ky., one day with a load of milk when she mustered up courage to hop off the wagon and ask a druggist what, in his opinion, it was necessary to do to learn both the business and professional sides of pharmacy. The gentleman interrogated gave her some good advice, and after her load of produce was disposed of, she went promptly to arrange for a course and to get posted on what it would be necessary to do. She found that it was going to call for much concentration and a good deal of hard work, to do what she wished to achieve, besides her other duties.

"Long hours and hard work were plentiful and left no time for recreation and precious little for sleep. Her studies completed, the next trial was to find a place to work. In those days, women in pharmacy were few and far between, as the saying goes. Proprietors, approached for an opening, were skeptical; they shook their heads dubiously. Determination is a great thing, however, and this young lady had plenty of it. She secured a position, and while she received very little money when she started out, nevertheless she became rich in experiences that served her well later on. In time this young lady pharmacist enjoyed a reputation for fine technique; each prescription that left her hands was as nearly perfect as skill could make it and doctors and patients were beginning to realize and appreciate her."

This is the foundation upon which Mrs. Behrens' present success is built, and it means a life competence and a business prestige of which anyone might well be proud.

Mrs. Leslie O. Wallace, of Auburn, N. Y., who had anticipated attending the W. O. N. A. R. D. Convention, at St Louis, wsa prevented from doing so by the need for an immediate operation upon her eighteen year old son.

BUSINESS INCREASE IN PATENT OFFICE

Commissioner of Patents, R. F. Whitehead, in his report of the fiscal year ending June 30, 1920, calls special attention to the unusual increase in the business of the Patent Office for the year just closed. The gains over the previous fiscal year in applications for mechanical patents, registration of trademarks, and in total applications were, respectively, 19,193, 6,149, and 27,283 in numbers and thirty per cent, seventy-two per cent, and thirty-six per cent in proportionate increases. The gain in actual numbers far exceeded any previous increases of business in any one fiscal year, and this gain is larger than the total receipts of any calendar year in the history of the Office up to and including the year 1881.

The patents granted and trademarks, labels, prints registered during the year 1920 were as follows; Letters patent, 37,316; design patents, 2,102; reissue patents, 227; trade marks, 6,984; labels, 622; prints, 158, a total of 47,409.

The total receipts of money increased twenty-four per cent, and the net deficit for the fiscal year 1919 of $65,228.13 was turned into a net surplus of $179,135.96, making a relative net increase of $244,135.09 for the year.

CHICAGO, THE WONDER CITY

We are in receipt of a bulletin containing the program of the 9th annual convention of the American Association of Port Authorities which was held at the Hotel Sherman, Chicago, on Sept. 30 and Oct. 1 and 2. The bulletin, besides containing a great deal of information concerning the work and purposes of this great organization which touches so closely the shipping and transportation life of the community, list of officers, etc., sets forth in attractive form data concerning the factors and resources which tend to substantiate Chicago's claim to being the first city in the world in the manufacture of export products, now having within its manufacturing zone over 20,0000 factories, with an output in 1919 worth more than $6,500,000,000. The bulletin is embellished with views and maps of Chicago and portraits of the officers of the association, as well as portraits of the Chicago Committee of Arrangements, among which is noted the likeness of Charles M. Carr, editor of the *Western Druggist*, who served as chairman of the publicity committee in arranging for the convention.

Hynson, Westcott & Dunning have purchased a building on Charles and Franklin streets, Baltimore, Md., which they will remodel and equip for a research laboratory and for manufacturing specialties.

Obituaries

RUDOLPH WIRTH

Rudolph Wirth, secretary of E. Fougera and Company, Inc., 90 Beekman Street, New York, passed away on Sept 10, following a serious operation for appendicitis. Mr. Wirth was particularly well known throughout the drug trade as he had grown up in the business, having started his career with E. Fougera and Company at the age of fourteen. During his forty-six years of faithful effort to extend the business of this French importing house he built up a wide circle of friends through his congenial disposition, his thorough knowledge of all departments of the drug industry, and his ever-readiness to be of any aid in any capacity possible. Mr. Wirth was born in New York City on Sept. 20, 1859. He was a Mason, being a member of the Ancient Lodge, Triune Chapter, Columbia Commandery, and Mecca Temple Shrine. He was also a member of the Metropolitan Museum of Art, the Sphinx Club and the Press Club. Mr. Wirth is survived by his wife, his brother Albert, and two half-sisters.

EDWARD T. COLTON

Edward T. Colton, one of the most prominent druggists in Rhode Island, a Republican member of the Providence City Council from the Fifth ward and Registrar of the Rhode Island College of Pharmacy and Applied Sciences, died recently from heart trouble at his summer home, Riverview. He had apparently been in good health up to the time of his death. He was 50 years old. He conducted a drug store at 465 Pine street and lived at 463 Pine street. Mr. Colton early identified himself with the drug firm of Chambers, Calder & Co., Exchange place. This concern went out of business in 1889. He entered into business for himself at the Pine street address soon afterward. Mr. Colton was a member and former President of the Rhode Island State Pharmaceutical Association, was at one time head of the Providence Wholesale Drug Company, and in 1918 was appointed by Governor Beeckman a member of the State Board of Pharmacy for a three-year term. He was a prominent member of Providence Lodge, No. 14, B. P. O. E. Elected to the City Council two years ago he was on the committees on Fourth of July celebration and public bathhouses. In addition to his wife and daughter, Catherine, he is survived by a father, Edward P. Colton, and a brother, James C. Colton.

EDWARD C. SMITH

Edward C. Smith, president of the Smith-Faus Drug Company, died at his home in Kansas City, Mo., September 16. Mr. Smith was born in 1865. He became associated with the Salt Lake City, Utah, firm in 1893, becoming vice president of the Nelden-Judson Drug Company, of which W. A. Nelden was president. In 1904 Mr. Nelden withdrew and Mr. Smith became president. In 1908 the firm name was changed to the Smith-Bailey Drug company and in 1910 Mr. Bailey withdrew and C. A. Faus became vice president and manager. The firm name was changed to the Smith-Faus Company. The death of Mr. Smith will in no way alter the standing or policy of his firm.

CHARLES A. WEST

Charles A. West

Charles A. West, vice-president of the Eastern Drug Company and a prominent figure in the wholesale drug business, with which he had been identified for more than half a century, died September 28 at his summer home at Little's Point, Swampscott, Mass., after a brief illness. Mr. West made his home at Hotel Somerset in Boston.

Mr. West was born in Boston, April 4, 1850, the son of Samuel and Lydia W. (Banks) West, and was a descendant of Gov. Thomas Dudley of Massachusetts. He attended the Chapman Grammar School, and the Boston English High School from which he was graduated in 1865. On Jan. 1, 1867 he entered the employ of Reed, Cutler & Co., wholesale druggists, in Boston and remained with them and their successors, Cutler Bros., for twenty years.

On Jan. 1, 1887 he organized the wholesale drug house of West & Jenney, and on Jan. 1, 1900, the company was consolidated with Cutler Bros. & Co. and George C. Goodwin & Co., as the Eastern Drug Company. Mr. West was elected vice-president of the company at the time of its formation. He also was president of the American Camphor Refining Company.

Mr. West was a member of the Society of Chemical Industry, the National Association of Wholesale Druggists, of which he was president in 1914; the Boston Chamber of Commerce; the Chemists, Drug and Chemical Club of New York; the Algonquin, Exchange, Tedesco Country, Eastern Yacht and Brookline Country Clubs. Some years ago he was head of the Boston Druggists' Association and a trustee of the Massachusetts College of Pharmacy.

While a resident of Somerville, 35 years ago, Mr. West was a trustee of the public library of that city, as well as president of the Central Club. He was a Republican.

ALBERT M. ROEHRIG

Albert M. Roehrig

Albert M. Roehrig, ranking pharmacist in the United States Public Health Service, died recently of apoplexy while on duty at the Marine Hospital, Savannah, Ga. He graduated from the St. Louis College of Pharmacy in 1888, serving as class president. He was an active member of the American Pharmaceutical Association, and had served the organization on many committees, and as member of its council. He was active also in the Masonic Order, and during the years he was assigned to duty at the Marine Hospital, Stapleton, Staten Island, served as Master of Klopstock Lodge, F. & A. M. He was also a member of the Scottish Rite, a Knight Templar, and belonged to the Shrine. His body was given Templar burial by Palestine Commandery of Savannah at the request of Hugh du Payne Commandery of Buffalo of which he was a life member. He is survived by his widow, who is wellknown to many members of the A.Ph.A., having frequently accompanied her husband at the annual conventions of the association. Mr. Roehrig was 61 years of age.

RESOLUTION ON DEATH OF R. C. STOFER

In testimony of the high regard it entertained for its late president, Richard C. Stofer, the American Drug Manufacturers Association recently adopted the following resolution on his death:

"Resolved, that it is with profound sorrow that the American Drug Manufacturers Association learns of the demise of its beloved president, R. C. Stofer, and that, while it offers to the bereaved family a sympathy that an appreciation of his lovable qualities makes heartfelt, it likewise offers them the consolation that is to be found in the thought that their beloved husband and father still lives in the good works he has left behind him, and in the cherished memories that his sterling manhood has instilled in all who were fortunate enough to know hom."

DON'T PERFUME ARTIFICIAL IVORY

Ladies are attracted to the beautiful imitation ivory toiletware now sold more extensively for toilet table accessories than the formerly popular silverware. Unfortunately, perfumes have their place also on toilet tables. Perfumes contain high percentages of alcohol. Now in order to avoid mental anguish over the marring of her beautiful hairbrushes, mirror backs, combs, hair receivers, and so on, milady should understand that alcohol is as destructive to the surface of her "ivory" toiletware as Billy Sunday and Wm. J. Bryan say it is to the lining of her hubby's stomach.

Imitation ivory is a product of cotton. It is a pyroxylin plastic. Its solvent is alcohol. Therefore, care must be exercised to keep perfume off the toiletware. There is a cleaning cream on the market especially intended to be used on artificial ivory. It will remove slight scratches and stains and restores the luster of dulled surfaces, but perfume is apt to permanently discolor the articles and forever ruin their beauty.

THE PYORRHOCIDE GIRL

The Dentinol and Pyorrhocide Company, 1480 Broadway, New York City, offer to send to druggists asking for it, one of the most artistic cut-outs ever designed for window and counter display. The original painting of the Pyorrhocide Girl is the work of an artist of high standing, while the reproduction of the picture in ten colors as exhibited in the cut-out, is one of the finest examples of the lithographer's art and good advertising. Write for a copy today. The company states that the display of the cut-out will brighten the corner where you are, increase wider interest in clean mouths and clean teeth, and furthermore, will enable you to enjoy fully the benefit of the extensive national advertising campaign on Pyorrhocide Powder now under way.

FINE FOR THE DRUGGISTS

A humorous instance of Danish methods is found in apothecary shops of the Virgin Islands, one of which is located in each town. *McClure's Magazine* tells the story of how each of the apothecaries had been granted the exclusive right to operate in his locality by the Danish crown. When announcement came of the purchase of the islands by the United States, the apothecaries complained to the king that they had been overlooked and were now subject to American competition. Denmark had more money than she knew how to use. Here were royal subjects who thought they had been injured. Money would soothe their wounds. To each apothecary the king made a grant of $30,000. Two years have elapsed since that time and each apothecary is still doing business at the same stand, with no American rivals in sight. Business is booming. They all carry a line of American canned goods and confections.

STATEMENT OF THE OWNERSHIP, MANAGEMENT, CIRCULATION, ETC., REQUIRED BY THE ACT OF CONGRESS OF AUGUST 24, 1912.

Of The Pharmaceutical Era, published monthly at New York, N. Y., for October 1, 1920, State of New York, County of New York—ss:

Before me, a notary public in and for the State and county aforesaid, personally appeared D. O. Haynes, who, having been duly sworn according to law, deposes and says that he is the Business Manager of The Pharmaceutical Era, and that the following is to the best of his knowledge and belief, a true statement of the ownership, management (and if a daily paper, the circulation), etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, embodied in section 443, Postal Laws and Regulations, printed on the reverse side of this form to wit:

1. That the names and addresses of the publisher, editor, managing editor and business managers are: Publishers, D. O. Haynes & Co.; Editor Ezra J. Kennedy; Managing Editor, Ezra J. Kennedy; Business Manager, D. O. Haynes, all of No. 3 Park Place, New York, N. Y.

2. That the owners are: (Give names and addresses of individual owners or, if a corporation, give its name and the names and addresses of stockholders owning or holding 1 per cent or more of the total amount of stock.) D. O. Haynes & Co. and D. O. Haynes, 3 Park Place, New York, N. Y.; E. King, 15 William St., N. Y.

3. That the known bondholders, mortgagees, and other security holders owning or holding 1 per cent or more of total amount of bonds, mortgages, or other securities are: (If there are none, so state.) There are none.

4. That the two paragraphs next above, giving the names of the owners, stockholders and security holders, if any, contain not only the list of stockholders and security holders as they appear upon the books of the company but also, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for which such trustee is acting, is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner, and this affiant has no reason to believe that any other person, association, or corporation has an interest direct or indirect in the said stock, bonds, or other securities than as so stated by him. D. O. Haynes, Business Manager.

Sworn to and subscribed before me this 1st day of October, 1920.

(Seal) G. H. RAYMOND, Notary Public, Kings Co., Certificate filed in N. Y. Co. (My commission expires March 30, 1923.)

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Index to Volume LIII of the Era

This number carries a complete index to Volume LIII of the ERA, covering the year 1920. The various subjects have been carefully noted in the effort to make reference to the wealth of material published in the volume readily available to all workers in pharmacy, and more especially retail pharmacists. With the ever-widening scope and details of practice, reliable sources of reference material must be kept at hand, and to meet this need subscribers are urged to preserve their files of the ERA and the indexes to each volume. Look for the annual index bound in this December number of the ERA.

A.Ph.A. Branch Lectures

If the various branches of the American Pharmaceutical Association were seeking for a vindication of their right to existence, they could produce no stronger evidence than to point to the effort they are making to bring the rank and file in closer contact with the scientific workers and other individuals who have rendered eminent services to pharmacy. The lectures of Dr. Edward Kremers before the New York and Chicago branches recently, are examples of what is being done in this direction. No one who heard either of these addresses could help having his vision of the entire field of pharmacy widened and drawing therefrom inspiration and encouragement to delve deeper into his own immediate problems.

The plan to provide such addresses at more frequent intervals is worthy of wider adoption not only by A.Ph.A. branches, but by various pharmaceutical organizations. The distribution of first hand knowledge through the medium of a master mind is profoundly illuminating and carries great weight. In its cultural aspect, the knowledge so gained tends toward a general dissemination of information that cannot be gained entirely from books, and certainly not by him who would remain cooped up within the four walls of his store. Pharmacy will gain much if it can attract and hold him who otherwise might allow his interest in his profession to be diverted to unproductive and unrelated activities of life. As a means to this end the personal contact with men who have participated in pharmaceutical affairs excites a new interest which should prove a drawing card in any community of half a hundred druggists.

The swing of the pendulum toward higher educational qualifications, now so generally recommended as a cure for the various professional ills of the body pharmaceutic, would be accelerated by a movement of this kind. In sending out their scholars and eminent men to the front, the associations can give the practical workers in pharmacy an opportunity to hear and see those who are gathering up into a combined whole the scattered and often apparently unrelated threads out of which the fabric of modern pharmacy is woven. Great nations have provided "exchange professors" to carry the spirit of culture and thought of their own civilization to those of other lands, and such a method has added not a little to intellectual advancement. In a like manner the pharmaceutical specialist in whatever line of work he may have engaged has something to tell about his particular field, and the opportunity afforded him to do this is sure to prove profitable and interesting to the everyday workers in practical pharmacy.

Pharmacist is More than a Merchant

Business ability is more than ever necessary in these days of re-adjustment to "normalcy" if the pharmacist expects to make a pronounced success in the retail drug business. The manufacturing and wholesale branches of the trade are exemplifying this doctrine in their operations and the necessity of the application of such ability is becoming more apparent to the majority of retail pharmacists. Indeed, there are not a few who are advancing the argument that qualification in the merchandizing side of pharmacy is more important than any professional attainment to which the pharmacist can lay claim. With all due respect to the opinion of those who would solve pharmaceutical difficulties by commercial insight alone, the obtruding fact remains that the pharmacist is very much more than a merchant.

The man or woman who would sell drugs must possess a certain technical or professional knowledge before either can declare themselves to be pharmacists, and the laws of all the States require that they shall demonstrate a proficiency in this knowledge before they will be permitted to conduct drug stores. Professional knowledge therefore takes precedence over every other qualification that may be exacted for the work in which they expect to engage. To go still further, about a third of the States in the Union provide that the would-be licentiate must be a graduate of an accredited college of pharmacy as a pre-requisite to examination for licensure, to say nothing of the practical experience requirement demanded of all applicants for registration in all of the States. Surely these requirements represent something more than is demanded of the merchant and as such they serve to put the pharmacist in a class by himself.

An analysis of the status of the pharmacist establishes the professional side of his career as the main pivot around which he revolves, and so long as he lays claim to the name he is essentially a pharmacist. Necessity may cause him to deal in side lines not closely related to the drug business, but such engagements do not remove him from the category in which he first enrolled. Rather, his experiences in this direction force home the conclusion that he must be a pharmacist plus a business man if he is to win success in his particular calling. A knowledge of the methods of advertising, of the history and effects of panics, of the principles of accounting, of the law of contract and agency, and of trade and business customs in general is positively essential in the management of any pharmacy, but the application of this knowledge functions only as an additional stepping-stone to a successful pharmaceutical career. All pharmacists worthy of the name are something more than merchants.

Governmental Economy Misapplied

There is a wide spread and well-founded idea, that taxation might be reduced if the number of superfluous Federal jobs was cut. President-Elect Harding has said that 200,000 employees could be dispensed with and everyone except the job-holders and their political friends will agree heartily. But while expanding the clerical forces, Congress has adhered to its timeworn policy of refusing adequate remuneration to the men in the scientific departments. The result has been a steady drain of able and well-trained men from the government Bureaus into the industries where many times they receive double the salaries their departments are able to offer them. Their places must be filled, if at all, by the inferior men who are willing to accept the pay offered.

During September of this year sixty-eight members of the scientific staff of the Bureau of Standards resigned, including some of the most valuable men. The Bureau of Standards is an important factor in the scientific work carried out under government auspices and its activities cover many fields in which accuracy of measurement is essential.

The policy of semi-starvation followed by Congress in regard to this Bureau is having its effect and the result can hardly fail to be a serious crippling of the aid it has been extending to industry. To take a single instance, if it is obliged to give up the calibration of apparatus and scientific instruments, the effect will be quickly felt by every chemical laboratory in the country. The plight of the Bureau of Standards in no way differs from that of many other Bureaus, including those of such proved value to the country as the Bureau of Mines, the Bureau of Animal Husbandry and the Bureau of Plant Industry.

It is time Congress learned to economize on legislative "pork" and devote some of the proceeds of this economy to the support of the Bureaus which add in an important degree to the productive capacity of the nation. This desirable event will not come to pass until those who by training and vocation are able to appreciate the value of the work done by these bureaus make their influence felt.

Buy Use
Tuberculosis Christmas
Seals

Ilex Paraguayensis or La Yerba Mate

Known to South American Natives Before Advent of Spanish Conquistadores and Now Consumed in Immense Quantities

By DR. H. HERZFELD, Buenos Aires, Argentina

Inquiries in the trade and frequent references in scientific literature indicate an increasing interest in yerba mate, or Paraguayan tea, a caffein containing plant indigenous to Paraguay and used by the natives long before the Spanish conquistadores reached South America. In this article Dr. Herzfeld gives an account of its natural history, preparation, chemical composition, and physiological effects. Mate is used as a beverage almost entirely in South America, although there is a small demand for it in certain European countries, especially Italy. According to reports of consular officers to the U. S. Department of Commerce, the best grades of yerba mate are said to grow in Paraguay, but the amounts grown in Argentina and Brazil are much larger, the total estimated production per year being given as about 6,000,000 kilos. The bulk of this production is exported to Argentina, where the tea is mixed with the Argentinian production for local consumption or for export under the name of "Paraguayan yerba mate." In Argentina, it is said, the demand for the tea is so great that exporters have little interest in trying to find other markets.

MANY physicians and naturalists like Marvaud, Byasson, Montegazza, Bonpland, Porodi, Gubler, Leguizamon and others, have written about maté, an herb which is in general use among all social classes in South America for making a beverage which possesses general stimulating properties. It is also used as a medicine. The herb is variously known as El Maté, Yerba Maté, Herva Maté en portuguese, Cá in the Indian Guarani dialect, tea of Paraguay, tea of the Jesuits and Yerba de San Bartolomé.

Maté is a product of the roasted and ground leaves of Ilex Paraguayensis, classified by Geofrey St. Hilaire in 1826 as belonging to the family of the Ilicineas. Prepared as an infusion, maté produces an aromatic, stimulating, and very agreeable tasting tea, especially for those who are accustomed to its use. Long before the Spanish conquistadores came to South America it was known to the natives, and has been found in the burial places of the oldest and most influential kings or caziques of the different Indian tribes; indeed, the use of maté and the method of preparing it have been known to the Guaranies or Paraguayan Indians since the beginnings of their history, and it is reasonable to assume that through them the plant became known to the Incas of Peru, although it is not indigenous to the latter country, nor does it grow there.

In their simple faith the Indians attribute extraordinary properties to yerba maté, and it has been used by them as a general cure-all for the treatment of practically every form of sickness. Its use has become so general throughout South America, and more particularly in Argentina, Paraguay and Brazil, that more than 20 million people are using it daily, the quantity marketed every year amounting to more than 40 million kilos.

Ordinarily *Ilex Paraguayensis* is a shrub, but under favorable climatic and soil conditions, it sometimes attains the dimensions of a regular tree and reaches a height of from 15 to 25 feet. The shrub appears not unlike a laurel, the leaves being elliptic, and from 8 to 11 centimeters long by 4 to 5 centimeters wide, toothed or serrated, thick, and having a shining, dark green color. The flower is white, forming racemes or clusters, while the seed is red in color and very similar to the seeds of the pepper. Ilex grows in thick woods, forming dense brushes called "yerbales." As indicated by its botanical name *Ilex Paraguayensis*, its habitat is Paraguay even if it is found in the countries bordering on Paraguay, viz.,—Brazil and Argentina. The plant grown in the last named countries, however, is considered much inferior in quality to that grown in Paraguay, both in taste and therapeutic properties, although the production is larger.

Method of Preparation

The preparation of yerba maté has been modified from time to time, the older methods called "caricho" and "sapecádo," being now supplanted by a process called "barbacuá," carried out as follows; Laborers called "tareféros" provided with leather lassos enter the woods and bend the branches so that these may be readily cut with the machetes or long knives which each carries. Only the smallest branches are selected, and these after being cut, are packed in bundles and taken to a place where they undergo the process called "overo" or "sapegado," a treatment which consists in passing the branches rapidly over an open grate fire until the epidermis of the leaves produces a small explosive sound called "guarani oporono." After receiving this treatment the branches are packed in bundles and taken to camp. The yerba in this condition is called "raidos." It is then subjected to a process called "barbacuá," which consists in completely drying the leeaves under a slow, regular fire in an oven built of earth or clay. When perfectly dry, the leaves are packed and sent to market in the skins of animals, usually of the goat or cow

Administration of Maté

Yerba maté is administered as an infusion in the same manner as that followed in tea drinking, about one-half an ounce of the leaves being sufficient to make three or four cups of the infusion The maté is taken by means of an apparatus called "matero," which consists of a receptacle called "matera," usually hollowed out from the fruit of a shrub or vine, generally of the Cucurbitaceæ, and the "bombilla," which consists of a silver tube flattened on one end to serve as a mouthpiece, and having a bulbous, perforated enlargement at the other end. In preparing the maté, the "matera" is almost filled with leaves, hot water is poured on, and the infusion is sucked up through the "bombilla," which is inserted through an aperture in the "matera," the small holes in the end of the "bombilla" preventing any of the herb or powder of the leaves from being sucked up. The matera is refilled with hot water from time to time, the additions being kept up until the herb is more or less exhausted. Following a patriarchal custom, the Indians pass the maté-cup around from individual to individual until all present have partaken of the tea, in this respect adhering to a similar practice adopted by the North American Indians in smoking the pipe of peace. It is hardly necessary to state that this unsanitary custom has been the means of propagating infectious diseases, although it is now going somewhat out of use, many drinkers at the present time owning and using their individual materas and none other.

Chemical Composition

In 1836, Tromsdorf made the first analysis of yerba maté, his work being followed by Stenhouse in 1843 and later by Parodi, Kyle, Arrata, Peckholt, and others. A comparison of the analyses of maté, tea and coffee is not without interest, as the active principles of each are similar, all three containing caffeine and tannin. Thus, tea contains from 4.30 to 4.60 per cent of caffeine, and 17.8 per cent tannin; coffee contains from 2.66 to 3.10 per cent of caffeine and 16.39 per cent of tannin, while maté contains 2.55 per cent caffeine, and 12.28 per cent of tannin. Maté also contains a bitter principal called mateina, which is soluble in water, also theobromine and mateona, the last named substance being an aromatic.

Physiological Effects

While the administration of maté produces a general effect on the whole human system, Dr. Lesage, professor of physiology in the University of Buenos Aires, who has made exhaustive studies of the action and effect of the plant on men and animals, has found that regardless of the quantities administered, no toxic effect follows. Used hypodermically and in concentrated solutions, no other effect than a stronger heartbeat could be detected. Intravenous injections are always well supported and produce only a quickened respiration, stronger heartbeat, and a larger secretion of urine. It exerts a marked influence on the digestive processes, neutralizing the excessive acidity of the stomach, and it is claimed therefore to be well indicated for administration one or two hours after meals, and to assist in the peristaltic action of the bowels, preventing constipation. The action of maté on the blood circulation, due to the bitter principle mateina, is said to be most beneficial.

All investigators who have studied maté uniformly state that following its administration to either men or animals, the heartbeat becomes stronger, and an increase of energy is exhibited. One drop of the infusion of maté put on a frog's heart showed a considerable rise of the Curva Cardiografica. Besides its action on the heart, it possesses general diuretic and tonic properties. It quickens the respiration in animals which have received intravenous injections, but this effect has not been noticed in human beings using it in accustomed and regular quantities. It exercises great influence on the muscular activity, increasing resistance and diminishing fatigue. There are many other substances producing similar effects, as alcohol, but with alcohol the action is rapid and quickly passes away, while the action of maté is slow and persistent. The stimulating action of maté on the brain is probably due to the increased tonic action of mateina and theobromine on the heart. It has also been noticed that maté which has a considerably smaller percentage of tannin than either tea or coffee, is less astringent and thus more favorably facilitates the action of the glands.

Another very convincing proof of the important and valuable properties of yerba maté is shown in the fact that the well-known Dr. D. H. Leguizamon of Buenos Aires has petitioned the Argentine Congress that maté should be entirely substituted for coffee and all alcoholic beverages in the Army, Navy and all public institutions. He claims that the public health and morals will not only be benefitted by its use in place of the beverages named, but its adoption will effect a great economy in maintaining these institutions.

Therapeutic Indications

As above stated, maté is indicated in cases where a heart stimulant is needed in kidney troubles, and where there is general debility, especially in Adimania cardiaca and insufficient renal action. Roy de Mericourt has called attention to the great benefit seamen, especially engineers and firemen, have received by using maté on their voyages, its employment enabling them better to endure cold and fatigue than by the use of any of the regular stimulants they have been accustomed to use. Dr. Leguizamon highly recommends maté in the treatment of nephritis and as a preventive of urinary calculi, also stating that he has had excellent results from its use in the treatment of Inertia intestinalis.

Other commendatory reports have been noted in authoritative literature, the London *Lancet* stating that maté has the advantage of a refreshing and fortifying drink with no astringent effects, while the *British Medical Journal* asserts that maté is useful in dyspepsia owing to its tonic properties and small tannin content. The *Society Art Journal* emphasizes the fact that maté has the property of sustaining strength, a property which is not possessed by tea, coffee or chocolate. It is reported that travellers drinking maté can walk six or seven hours without becoming fatigued or feeling the necessity of eating.

Status of Individual Prophylaxis

Army and Navy Statistics Show Its Effectiveness

THE question of individual prophylaxis has been discussed quite freely in this country in the last few years but it has not yet reached the actively controversial stage which it has attained in England. Ever since the war records brought to the public's attention the alarming prevalence of the venereal diseases, the subject of their prevention has come very much to the front. Not only have all phases of the problem been considered in government and medical circles, but discussion has been rife in the non-scientific reviews and the daily press. Practically every possible method of combating the spread of these diseases has received wide consideration and the wisdom of government encouragement of individual prophylactic methods has had its due share of attention.

The Arguments Against Sanction of Method

As might be expected, violent opposition to the idea developed at the beginning of the discussion and has by no means been entirely allayed. The objectors maintain that not only should government sanction of such methods be withheld, but they should be discouraged. The arguments advanced against encouragement for individual prophylaxis are the same familiar ones which are used in this country and all of which are concerned with the moral side of the question. Its opponents claim that if the fear of disease is removed by wide dissemination of information as to its prevention, it will result in a regrettable lowering of the moral standard. They also hold that government activity along these lines would be taken by many as a tacit approval of immorality.

Fear not an Effective Deterrent

The adherents of prevention are many and enthusiastic, however, and the movement has made more progress in England than here. Sometimes the enthusiasm seems a little extreme as in a suggestion that machines like our gum machines be used as vendors of prophylactic packages. Supporters of the plans for prevention do not admit the truth of the objections made to it. They meet all the claims of its opponents with the counter argument that as fear has never acted as an effective deterrent, the removal of fear will be without effect in increasing the amount of moral laxity. As for the argument that the disease is a punishment for wrong-doing, they point out that a large percentage of the sufferers, probably as high as 50 per cent, have contracted the diseases innocently.

On the moral side of the question reams could be and have been written, but unfortunately the statements made are essentially unprovable. But the advocates of prophylaxis make one more statement. This is to the effect that even admitting the moral objections individual prophylaxis should be urged because it is sufficiently effective to go far toward stamping out the diseases in question.

Evidence Bearing on Efficacy of Treatment

Here we are on firmer ground for this claim as to the effectiveness of prophylactic treatment is susceptible of proof. We cannot, of course, show except by actual trial, whether it would ever be used with sufficient universality to eradicate the diseases, but there is fortunately a great deal of evidence bearing on its efficacy, when properly applied. Most of this evidence is of an official or semi-official character, since it is largely supplied by army and navy reports of England and the United States.

Work of Metchnikoff

Individual prophylaxis, as the term is used today, means the use of the calomel-hydrated lanolin ointment advocated by Metchnikoff and Roux as a result of their experiments on monkeys, the reports of which were first published in 1903 and 1905. At the time some other investigators questioned the results, but without taking time to review the experimental evidence it may be said that Metchnikoff substantiated his claim that a 33 per cent calomel ointment was effective if used within a few hours after exposure. This work of Metchnikoff provided a basis for the preventive methods employed by the military organizations, particularly our own Army and Navy. A great deal of experimental evidence has been collected as a result of the use of such methods, but it is unfortunately not so complete as might be desired, since neither branch of the service has collected and collated full records of the results attained. The same is true of other countries.

Figures therefore cannot be given for the whole Army or Navy, but there have been a large number of reports bearing on the effectiveness of prophylactic treatment, based, in each case, on results obtained with a fair number of men.

Medical Experience in the British Army

The following reports of results obtained in the British army during the war may be taken as characteristic of their experience. Sir Thomas Anderson Stuart, M.D., professor of physiology and dean of the faculty of medicine in the University of Sydney, speaking of the expeditionary forces in Egypt, said: "What is called a prophylactic or preventive tent is stationed at the entrance of each camp. Certain measures are there taken as men who have exposed themselves to infection return to their quarters, with the result that of a certain series of 2,000 cases reported upon, in only three the disease developed, while in another series, in the first month after the system had been established, of 432 men who were attended to in the tent, in not one did the disease develop, while of thirty-five men in whom the disease had developed, not one had visited the tent."

Official Statements from Other Sources

More evidence of a similar nature is given by one of the health officials connected with the Australian forces in France. "Wherever prophylaxis was properly applied, at least two-thirds of the cases of venereal disease were eliminated. That is the official statement of the American Army and it coincides with that of the Canadian and Australian armies, on broad lines. In particular cases enormously better results than this were attained. For example, in August-September, 1917, over five thousand British troops came to Paris on leave without prophylactic measures being provided, and 1,038 became infected, over twenty per cent. Leave was then closed down; three prophylactic tubes were issued, with the result that although during the next six months some twenty-five thousand to thirty thousand troops came on leave to Paris, the amount of venereal infection among them was reduced to less than three per cent. By special additional effort in Paris, backed up officially and unofficially by the Australian Army authorities, I succeeded in making the Anzacs the cleanest troops that ever came on leave to Paris. In five months we had only twenty venereal infections whereas many hundreds of infections were recorded against other troops. It is noteworthy that in November-December, a period of five weeks, when our supply of prophylactic outfits ran out, we had twenty-four infections to our discredit, four more than during the previous five months."

Prophylaxis in U. S. Army Compulsory

Prophylaxis has been in general use in the United States Army and Navy since 1908 and since 1912 the use of prophylaxis in the army has been compulsory. Although as previously stated no complete reports have been kept, doubtless in part from a desire to avoid publicity, many medical officers have furnished statistics of the results attained.

A few of these reports may be quoted here to show what success has accompanied the preventive efforts.

The "Military Surgeon" in September, 1914, reported a test in which 221 prophylactic treatments were given resulting in only two infections and in both these cases treatment was not given for more than eight hours after contact.

Riggs in 1917 gave a much more complete report of results attained in the Navy showing 5,103 treatments with only 81 or 1.58 per cent infections. It is interesting to note that the per cent of infections based on time of treatment varied progressively from 0.08 per cent in the case of men treated within an hour to 7.4 per cent with those treated after ten hours.

A report of a regiment stationed in Arizona shows even more remarkable results. In the year from June 1, 1915 to June 30, 1916, 4,989 treatments were given with no cases of infection following them. This is exceptional and a report from the Philippines shows 15 infections after a total of 570 treatments.

The most complete report available was furnished from Fort McKinley, P. I., and covers two years and four months. For 1913 the average enlisted strength was about 3,000 and 6,785 treatments were given. Of the cases treated, 21 developed infection or 0.31 per cent. Only one man who took the treatment showed primary syphilis, while 42 who did not take treatment, developed the disease. In 1914, 9,287 treatments were given and 28 infections of treated men or 0.3 per cent were noted and one case of primary syphilis developed against 31 among the non-treated men. The four months of 1915, which are recorded, show 24 infections or 0.7 per cent of the 3,393 treatments, and no cases of primary syphilis against 26 among the men who did not take treatment.

In considering these results attained by the Army and Navy medical organizations, it must be remembered that in all the reports quoted, with the exception of the Australian one, the treatment was given by medical men after the return of the men who had been on temporary leave. The strongest advocates of prophylaxis admit that its efficacy would be much lessened as applied by the civilian population since much depends on proper precaution in the application.

Distilled Water in Industry

Since coal is high in price, distilled water made by retort has become rare in many places. We seek then to replace it by water purified in another way. When we deal with industrial employments for which salts of calcium are the only reagents, we can get away from them by treating cold water with oxalic acid. Water purified in this way may serve in the preparation of all articles of food and pharmaceutical compounds. However, oxalic acid is a poisonous substance and we would not advise putting it in the hands of persons who are not familiar with chemical experiments. We can replace distilled water with rain water, although its purity is very variable; evidently it carries in it the dust contained in the atmosphere, and is often collected on large surfaces whose suitability is doubtful. Although certain gourmands declare that the water of the roof-leaders is superior to that of the laboratory for vinous or spirituous distillations —from the hygienic point of view, the use is not to be recommended, at any rate not until we are sure on what surface it was collected.

The water which most closely approaches that of the laboratory, comes from the fountain of the glaciers. The water of certain granite soils is sometimes so little charged with lime that it is too pure for good use in our food. With lime it may dissolve the lead of the house plumbing and become dangerous—(*Farmacia*).

Buy Use
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Seals

Legislation: Rational and Irrational*

J. H. BEAL, Urbana, Ill.

PROBABLY the greatest problem before the American people today is to know how to deal with the ever increasing flood of regulatory and restrictive legislation.

J. H. Beal

The faith of the average American citizen in the all-sufficiency of legislation to cure social, economic and moral evils is childlike and bland—a faith that is never chilled by the fact that rarely in his experience has he known a law to accomplish more than a fraction of the good that was expected of it, and that many laws have either failed altogether or have introduced greater or more numerous evils than those they were intended to cure.

In selecting his political advisers the average citizen resembles the tuberculosis patient who rejects the advice of the competent physician who tells him that the resources of medicine in that disease are limited, and employs the quack who guarantees a certain, speedy and complete cure. When the conservative statesman assures us that the possibilities of law as a reform agent are limited, that many evils cannot be cured by legislative acts, and that the law which attempts to do too much at once is likely to fail altogether, we will have none of him. But when some wild-eyed fanatic offers his universal panacea for political and social ills, we forget our former experience with his kind, surrender our common sense and swallow his prescription holus-bolus.

Wise laws and regulations are essential to order and progress, but ill chosen and excessive regulation is as hurtful to the body politic as ill chosen and excessive medication is to the human body.

Assuming that we shall continue to grind out national and state legislation at the present rate, what will be the volume of written law in another twenty-five years?

Consider also the bulk of secondary legislation in the form of rules and regulations adopted by the administrative officers of the law. Congress adopts a measure covering four or five pages, whereupon the Department charged with administering the law issues a code of regulations covering fifty or sixty pages. Congress scarcely understood the original law; no one understands the regulations.

Our country began its existence with the freest government on the face of the earth, and under this freest of governments our people have prospered as no people ever prospered before. Unless we can check the present craze for law-making and regulation, the next generation will find itself restricted by more *verbotens* than Germany under the Kaiser and under the rule of more bureaus and bureaucrats than Russia under the Czar.

Inability of Reformers to Learn From Experience

Apparently there is a difference in our ability to learn from experience in political science as compared to the physical sciences.

In the physical sciences facts acertained by careful experimentation are recorded in books and become a part of the general inheritance of the race, so that men do not waste their lives in forever trying out the things that have been fully tested previously.

In political science, however, we do not seem to be able to record well established political and economic facts in such a way as to save the world from endlessly trying over and over the same old experiments that have been tried and have failed numberless times before.

If mere law-making could make men or society perfect the world would have been free from evil some millenniums ago. Every known political and social tort has been legislated against thousands of times and yet these wrongs persist, and not a few when traced to their sources will be found to be the direct outgrowth of the very laws intended to prevent them.

The Plain People Responsible for Bad Legislation

Commonly we censure the politicians for piffling and vicious legislation, but are we correct in this? Politics is merely the applied science of human nature, and the politician is very, very human. As a matter of fact, the politician is almost pathetically anxious to give the voters what they want, or what they think they want, whether it be a trifling legislative toy or a powerful and deadly instrument of destruction.

The legislator of one or two generations ago probably did largely formulate his own theories of government and the measures he advocated. Today, except in comparatively unimportant matters, he takes his orders from the representatives of powerful organizations who hand him their measures completely written out, with the information that he must either support them without modification or be violently separated from his legislative dignities and emoluments at the next election.

Very prudently he observes the wishes of the organized minority of voters who are able to secure his election or defeat, rather than of the unorganized majority who will neither support their friends nor punish their enemies.

Commonly a state or a community gets as good government as it deserves. If the so-called plain people permit organized factions to dictate to them the candidates they shall vote for and the candidates they shall vote against then the plain people must accept responsibility for the results.

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*Illinois State Pharmaceutical Association, Rockford, Ill., June 23, 1920.

The Corner-Stone of the Federal Constitution

Nowadays it is thought sufficient to condemn the United States Constitution as obsolete and out of date because it was composed before the age of telephone, wireless telegraphy and flying machines. It would be equally as reasonable to declare the principles of Arithmetic as obsolete and out of date because they were announced before modern methods of doing business were invented.

The foundation principles of free government are eternal. Civil government is not a problem of mechanics, but of human nature, and no group of men who ever lived had a keener or closer information of the fundamentals of human nature than the group of statesmen who formulated the Federal Constitution and the Bill of Rights that was made a part of that document. They were not only men of rare natural capacity, but they met their task with a face to face directness and with a freshness of experience with governmental tyranny that their successors have not had.

These men said: No government has ever had unlimited power over the lives and destinies of its people that it did not eventually exercise its power oppressively. We will prevent such a disaster by making it a fundamental principle of the Federal Constitution that the powers of the government shall be limited strictly to matters of general concern, and will prohibit its interference in the lives and liberties of the individual citizen, except in-so-far as they are intimately and directly connected with the powers expressly given.

This principle was made the corner-stone of the Federal Constitution, and it is not too much to say that under the form of government thus founded our people have enjoyed a greater degree of national prosperity, and a greater degree of personal liberty coupled with order than ever before existed.

Unfortunately, our people have overlooked the fact that the prime reason why our Federal Government has not ruled oppressively was because it did not have the power to oppress. We now seem inclined to reverse that ancient policy and to confer upon the general government the very powers which the elder group of statesmen were certain should be withheld from it. What the end will be no man can tell. Perhaps the innovators are right; but if our government can possess unlimited powers without using them oppressively, it will be the first instance of its kind in all the history of civilization.

How Nations Have Lost Their Liberties

One who studies the history of civilization is constantly impressed by the fact that peoples who have obtained their liberties by the most heroic sacrifices have so frequently thrown them away again in the frivolous pursuit of things they thought would make their liberties still more secure and their freedom still more free.

This was the nearly uniform history of the Greek and Roman democracies and republics, and of the later republics constructed out of the wreck of the Roman Empire. In almost every case the decadence began with the increase of law-making, or with the forcing of obnoxious regulations upon their citizens by the factions which successively obtained control. Their vigor and prosperity regularly declined with the growth of internal legislation until they had so weakened themselves by factional strife that they fell to pieces of their own weight or were an easy prey to enemies from without.

Of course, no people ever intentionally destroyed their own liberties. They always intended their law-making to make their countries better and stronger. The mistake they uniformly made was in consenting to the violation of the fundamental principles of free government for the sake of some fancied immediate good which their radical legislation was expected to accomplish.

The one great lesson of all these ancient attempts at self-government is that a people who willingly submit to the suspension of the fundamental principles of free government for the sake of expediency, or for the accomplishment of some quick and immediate reform will in the end always come to grief. Fundamental principles that can be suspended for beneficent purposes can also be suspended for evil purposes, and laws intended for purely good ends can also be enforced oppressively.

No Law Can Be One Hundred Per Cent Efficient

One prime reason for the multiplicity of new laws and of amendments to the old ones is the general failure to understand that even the best of laws will fall far short of complete efficiency.

If we were to ask a ship builder to furnish a ship of steel or wood that should be absolutely water-tight, he would reply that the cost of such a vessel would far exceed the benefit of absolute water-tightness. Every ship's hull leaks to some extent; all that is expected of it is that it shall not leak sufficiently to impair its seaworthiness, or lessen its effectiveness as a carrier of passengers and cargo.

Strangely enough, people who do not expect absolutely unleakable ships, and who do not expect to obtain one hundred per cent efficiency from any construction of wood or metal, are forever trying to compose laws that shall be one hundred per cent efficient, that is to say, laws that cannot be or that will not be violated.

Some thousands of years ago there was promulgated a code of Ten Commandments governing the fundamentals of social and moral conduct and in all the centuries since then the Divine Author of that code has neither repealed nor amended a single one of the ten original articles. In the meantime, mankind has adopted, amended or repealed some millions of laws and regulations, and spends no inconsiderable portion of its time in considering the adoption, amendment or repeal of others.

A divine intelligence could be expected to understand that if men are disposed to disobey the commandments of a primary code, they will be equally disposed to disobey the provisions of all subsidiary codes of amendments and regulation; but human law-makers, when they discover that one set of statutes is being violated, seem to imagine that by the adoption of a new code of regulations with increase of penalties, or by juggling and rearranging the phraseology of the old code, the law violator will become an observer, and in spite of universal experience to the contrary, they have not yet discovered the fallacy of this theory.

The law-making bodies of this year are busy amending and reforming the laws adopted at previous sessions. Last year they were doing the same thing. Next year they will repeating the process.

Each successive measure in its day was proposed as an important and necessary reform, and those who dared oppose it were denounced as reactionaries and obstructionists, or worse. When in time its defects became evident, it was then attacked as an abuse by a new set of reformers, the successive crops of reformers jumping over each other's heads like a parcel of boys playing leap-frog.

The latest revised form of law enacted on a given subject is probably no more nearly perfect than the first one, and the same would probably be true if the law should be re-written by each succeeding general assembly for the next hundred years.

What we all must learn is that the best possible law will fall far short of perfection, and that when any comprehensive and well considered law has been placed upon the statute books our attention should be given to its enforcement, and not wasted in the devising of impossible measures that cannot be violated. The piling of law upon law only multiplies the number of violations.

Excessive and Radical Legislation Productive of Lawlessness

Excessive and extreme legislation is of itself a most potent breeder of lawlessness. Every student of history knows that, without exception, periods of excessive and radical regulation have always been followed by periods of equally extreme and radical reaction.

Seemingly there is a certain ratio or balance of regulation that must be maintained to obtain the best results for law and order. Human nature will stand for coercion without reaction up to a certain limit, but if this limit be exceeded, there will be a moral break-down that makes the individual less amenable to the reasonable restraints of the law than before.

I believe all of us can call to mind laws the very extremity of which makes it profitable to break them. The profits of violating the law may be so great, and the risk of punishment so small in comparison that the hazard is really not much greater than the hazard of lawful occupations that are much less profitable. Such laws in effect place a premium upon law-breaking, and penalize the law-abiding. Citizens who are naturally inclined to obey the law find themselves at a disadvantage as compared to those who ignore it, and they, too, become law-breakers, and there is a letting down of moral tone all along the line.

Most men believe that the chief function of government is to protect them from oppression. When the citizen comes to feel that the government itself has become an oppressor, he is already at least a potential law-breaker, ready to evade the mandate of the law whenever he thinks it safe to do so.

The Failure of Emotional Legislation

That some laws succeed fairly well in correcting the evils at which they are aimed, all can testify from personal observation; that some laws do not work at all, or have a back action that is worse than inaction is a matter of common knowledge.

If we examine into a law that is known to work fairly well in practice we shall usually find it to be one that is not extreme in its provisions, and one that was formulated by cool and deliberate judgment in the light of well established precedents. If we examine into the laws that are admitted failures we shall find almost universally that they are extremely drastic in their provisions and that they were composed under the influence of strong emotions and passed under the whip of fanatical propaganda.

When our emotions are aroused in public affairs we want direct action and lots of it and we mistrust the motives of those who urge less drastic measures as a more certain, though slower and less spectacular method of reaching the desired end.

We regulated the railroads with our emotions instead of with reason and judgment until we regulated them nearly into bankruptcy. When complete bankruptcy is reached, we shall probably discover that the real offenders have escaped and that the innocent have suffered.

When we undertook to regulate the trusts we again rejected the teachings of experience and the reasonable judgment of experts and followed emotional leadership with the result that we hoppled and haltered legitimate business enterprises without materially curbing the operations of those the law was intended to reach. This emotionally formulated law has not only operated to prevent small business men from combining to protect themselves from the aggressions of large capital interests, but every time Congress passes an appropriation bill it is reduced to the pitiful expedient of expressly providing that the money appropriated shall not be used to prosecute violations of the law by trade unions or by agricultural interests.

Why is it that we so frequently follow emotional leaders and reject the counsel of conservative statesmanship? Simply because of our impatience for immediate results. It is the same disposition that prompts the clerk or doctor or druggist to withdraw his small hoard from the safety of the savings bank and invest it in oil stock that promises a thousand per cent return.

Common horse sense, or even average mule intelligence should teach us that in political affairs as in business enterprises the more profuse the promises the less likely the performance. The promoter of fake mining schemes or of get-rich-quick concerns can always promise greater returns on the investment than can be offered by the promoters of legitimate business undertakings.

Laws Fail When They Ignore Human Nature

Laws also fail when they ignore the ordinary qualities of human nature, instead of operating in harmony therewith.

The engineer who digs a tunnel, or drains a swamp, or irrigates a desert does not begin operations without a careful and scientific study of all the surrounding conditions. Sometimes he finds a direct method of approach the most suitable, sometimes an indirect approach, and his success is measured by his ability to adjust his methods to the particular circumstances in each case. Sentiment and emotions find no place in his plans. He does not attempt to destroy the natural tendency of water to flow down-hill, but makes use of a fall of water at one place to carry water up-hill at some other place. He does not ignore or attempt to violently suspend the operation of natural laws, but seeks to utilize them in the attainment of his purpose.

The reformer of political and social institutions, in his anxiety for direct and immediate results, rarely takes the time to patiently study the particular conditions involved, refuses to be bound by the laws of human nature, and will not consider any other method of approach than the age-old formula "it is forbidden," which in the history of civilization has failed as often, if not oftener, than it has succeeded.

Some evils of the body politic are of such a nature that the only proper course of procedure is to totally prohibit them, but others are like the tares in the wheat that cannot be directly uprooted without uprooting the wheat also.

Properly speaking, successful laws do not make reforms, they only mark the period when through the process of education a liberal majority of the people are thoroughly convinced of their wisdom and necessity.

Human nature in the mass can be led by education and persuasion; it cannot be successfully driven. Laws that are passed by tricky political methods or adopted with the grudging assent of a bare majority, and which attempt to violently uproot world-old prejudices or beliefs in a day, retard rather than advance genuine reform.

We Talk Eugenics and Practice Anti-Eugenics

One who should study the accomplished and attempted legislation of the last quarter of a century might reasonably arrive at the conclusion that the chief object of civil government is to protect the mentally incompetent, the morally weak or vicious and the physically unfit. He would observe, for example, that the law makes it difficult to secure useful and necessary drugs for the treatment of the mentally and morally competent in order to keep them out of the hands of degenerates who might use them to their own hurt. He would discover legislation to handicap the enterprising and progressive business man in order to enable the less enterprising and less progressive to succeed. He would note the legalization of trade union rules designed to penalize the skilled and industrious artisan and prohibit him from producing more or better work than the unskilled and the lazy. He would discover numberless schemes, either accomplished or in process of accomplishment, designed to pension the lazy, incompetent and wasteful members of society and to collect the pensions from the industrious, competent and economical members. He would observe parlor philosophers talking about the importance of developing a mentally fit and physically strong and virile race and advocating governmental and social policies designed to produce the opposite.

On every hand we see societies and devices intended to favor and protect the weaklings and degenerates. Why do not some humane persons establish a society to protect the rights of those who are neither weak nor vicious, who exercise a proper restraint upon their appetites and passions, who are industrious and thrifty, and in every way prove their right to respectful consideration?

Is it not time for a new Declaration of Independence, declaring that the sane and decent members of society have certain inalienable rights of which they shall not be deprived in order to confer special benefits upon those who do not deserve or who have abused the privileges of citizenship?

No one will dispute the duty of the state to restrain the morally or mentally incompetent, whether their incompetency is congenital or acquired through the indulgence of vicious habits, but the state goes beyond its obligations when it invades the rights of the deserving citizen in order to protect the degenerate from his own folly. If additional restraint be needed, reason and justice would place it upon the degenerate and not upon the innocent.

The Remedy for Vicious and Meddlesome Legislation

Is there any remedy for the flood of emotional, unnecessary and meddlesome legislation with which the present age is afflicted?

As Mark Twain said about improving the weather, "everybody talks about it, but no one does anything."

The one and only true remedy for excessive and meddlesome legislation is public opinion enlightened in the following particulars:

(1) A better understanding of the plan and purpose of the original American constitutional system, and the historical reasons for the limitations upon legislation found therein.

(2) A better understanding of the fact that law is not all powerful in curing social and economic evils, and that many are best cured without it.

(3) A better understanding of the fact that excessive law-making promotes excessive law-breaking.

(4) A better understanding of the fact that when any comprehensive and well considered measure has once been placed upon the statute books it should not be amended except upon the plainest possible proof that the amendment will work more efficiently than the original law; and finally—

(5) That reason, common sense and the results of experience are better guides to law-making than emotion and hysterical propaganda.

A better popular understanding of these elementary principles might not assure perfection in law-making, but it ought to materially reduce the quantity of misfit legislation enacted at each meeting of the general assembly.

When is Poison Not a Poison?*†

Answer More of a Problem than Cursory Glance Indicates

By JOHN URI LLOYD, Pharm.M., Cincinnati, Ohio

A REPLY to the above question might be: When, for any reason, a substance is harmless in action, immediate or remote, be it applied externally or taken internally. In other words, it is *not then a poison.*

This leads to the question: "Can a substance be considered as a poison at one time and innocuous at another?" To this one might make several replies, as the problem is viewed from its several side-angles.

Toxicity of Sulphuric Acid

For example, sulphuric acid, in concentrated form, applied to the skin or taken internally, will at once disintegrate flesh. Its action is then that of a corrosive agent, its destructive influence resting directly upon avidity for water and its power of abstracting water from liquids and even from tissue, to the tissue's complete destruction. It thus, under these conditions, becomes a corrosive poison.

As an example we might state that white sugar is a carbohydrate composed of carbon and the elements of water in the proportion to theoretically produce water. Place a lump of white sugar on a plate and then pour upon it a little concentrated sulphuric acid. Immediately it turns yellow, then black, owing to the liberation of carbon (charcoal) by the abstraction of its companion oxygen and hydrogen, which the acid takes, to the destruction of the sugar.

Dilute the same amount of sulphuric acid with water, to pleasant acidity, and it no longer destroys tissue on contact therewith, nor is it immediately harmful to the stomach. The sugar dissolves in it, colorless, when it is thus diluted. Indeed, as an acidulated drink (circus lemonade), much diluted and flavored with lemon oil, it has been used, without immediate corrosive effect or injury, as a substitute for lemonade. This practice, however, is now wisely forbidden.

To sum up, in one form, sulphuric acid is destructive to living tissue; in another form (dilute), it acts differently. The amount that concentrated, would disintegrate tissue if applied locally, is, when diluted harmless.

Arsenic as Habit-Forming Drug

Take next arsenic. With the normal human being, arsenic, in comparatively small doses, is death-dealing. But with some persons, artificially made immune, a dose that poisons others is harmless. Arsenic eaters come within the scope of habit-forming drug addicts. The habit-formed principle applies likewise to morphine and similar drugs. Be the arsenic or morphine dilute or concentrated, a toxic amount to the normal man acts as a poison. Be it, for example, six grains of morphine, in substance, or six grains dissolved in an ounce of water, the same exerts its poisonous influence, providing the whole amount be taken at a single dose. Indeed, dilution may even increase its activity.

Be it said, that, although arsenic, morphine and such as these act as poisons upon the normal man, an individual may, as above stated, accustom his system to the drug, so that enormous doses may be taken without apparent injury. In this no comparison can be made with the cited action of sulphuric acid of which a drop on the skin of any man will bite its way to the tissue beneath, but yet can with impunity be swallowed when diluted with water.

Action of Rhus Toxicodendron

We may likewise pass to other material that exercises special influences, but where, so far as we know, artificial habit-forming methods have no part. Rhus toxicodendron both excretes a substance and carries a volatile something that produces violent toxic action on some persons, while to others it is as harmless as bedewed grass. A waft of air over the dew-covered vine may close the eyes of a strong man exposed to its air-wafted influence, may cover his body with a most painful eruption, may drive him to seek his physician's aid.‡ Another man or a fragile girl comes next and with impunity, with bare hands, pulls the vine from its fastenings. The eyes of the first man may be closed by the attenuated "poison," imperceptibly attenuated by the gentle breeze, beyond the chemist's art to identify, while the other person, bespread with its juice, has not even a pimple on his head. This "poison ivy" is, or is not, a poison, as the individual is or is not susceptible to its influence.

As an illustration, the writer each year has laboratory use for many thousand pounds of rhus toxicodendron (poison ivy). The green leaves when in their prime, are gathered by collectors, who in midsummer, with bare hands and arms, strip the vines, crush the green leaves into sacks, and deliver the product with impunity. No immediate, or after-effect is noticeable. One young lady of the laboratory force is so sensitive to the action of the drug as to respond to the emanations, although she be in a distant part of the establishment. To bottle and label "Rhus," or otherwise handle a preparation, means to her typical rhus poisoning. Consequently, at such time, she has a vacation, not being allowed within the establishment.

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*Eclectic Medical Journal. Reprinted from Am. J. Pharm.

†Definition—Poison: "Any Substance applied to the body, ingested or developed within the body, which causes or may cause disease."—Dorland.

‡The remedies offered as "poison ivy cures" are legion. This writer believes that action is often remote from the drug attack. The chain of systematic reactions that produce the body-bred toxines may be likened to the Biblical "third and fourth generations."

Variations in Vaccination Effects

Once we knew a man to be vaccinated with a virus-crust that, used in equal amount on others, produced no untoward action. And yet that man came near losing his arm. It is evident that not the virus, but the man, or some undetermined local cause connected with his case, was then at fault. The virus was the actual disturber. Let us not overlook that in such cases as these local conditions, such as the syringe needle or skin uncleanliness, may be at fault, not the virus.

Physicians may recall the use of a hypodermic syringe from season to season, with no complaint. Then, in the course of ordinary injections, a patient is "poisoned" by the same dose of the same medicine previously employed, and injected with the same syringe needle. The question arises, what caused this exceptional action? Blame is likely to be attached to the virus, regardless of its innocence.

One might fairly imply that either in this one case the syringe needle was infected, or that a shred of foreign matter was injected, or that this one patient was exceptionally sensitive to the remedy employed. Vaccines are not in our sphere; we make no claim to capacity to speak as an expert in this field. But yet letters from patrons citing exceptional experiences in these directions lead us to accept that where one person, and only one, experiences such exceptional results with a preparation where hundreds of others find no untoward effect, the cause may be accepted as local or systemic, its exceptional action lying outside the preparation used. Such as this is a problem for serious study.

Tobacco Poison or Food

Full well is it known that tobacco is destructive to the life of most insects, and yet there are worms that thrive on the green leaf, as well as insects that thread the dried drug, and delight in the choicest cigars. To the one, green tobacco, to the other dried tobacco, is a food. And yet, this writer was made "deathly sick," as frightened observers can testify, when a film of collodion containing a fraction of a drop of nicotine was painted back of the nail, on the first joint of his thumb. Within a few moments alarming results followed, the poisonous film was at once washed off with chloroform, ammonia to the nostrils and stimulants internally being promptly administered. And yet, without any untoward influence, thousands of employees breathe with impunity the close air of tobacco warehouses, cigar factories, and constantly handle strong nicotine tobacco leaf.

Capsicum, in substance, is heroic, as all who have experienced its direct action will testify. But yet a beetle (undetermined, so far as we know), feeds on powdered capsicum, and burrows in its depths. To that insect capsicum is a choice food, and to the Mexican, in excessive amounts, it is but a pleasant condiment.

The plant known as sanguinaria (blood root) contains large amounts of energetic alkaloids that vomit man, when taken even in small doses. And yet a single mole exterminated a bed in whch this essayist took much pride. At least, by circumstantial evidence, the mole got the blame for the offense.

Poisons Not Destructive to All Animals

In like manner, biologists are aware that heroic poisons fail to act with some animals, while substances "not a poison" are destructive to others.

"Chambers" is authority for the assertion that natives of Africa drive hogs through serpent-infested sections, the hog not being susceptible to the virulence of that viper. It is stated that the beast presents its cheek to the serpent, then grasps the reptile in its mouth. Tradition has it that the hog is likewise immune to arsenic. Country people have a tradition that a full pail of milk from a newly-calved cow will kill a hog. The father of this essayist doubted the statement and fed a valuable hog a full portion of the first milking. The hog died that night. Seemingly, the experiment succeeded. And yet cheese made of the first milking of the "nannie goat" commands exceptional value in Smyrna.

The miasmatic fog that catches one person may fail to affect neighbors equally exposed. A plague may sweep away a multitude and yet miss an individual member of that multitude.

Answer to the Question a Problem

Thus we find that the term poison, whatever the dictionary definition may be, carries undercurrents of opportunities for questionings, as well as investigations, that make the answer to the question, "When is a poison not a poison?" more of a problem than a cursory glance would indicate.

And yet, since, as a rule, such peculiarities as these are exceptional, a cause for each exception unquestionably always exists. The reason therefor, in obscured conditions, is an opportunity for science research, the facts havng, as a rule, been incontrovertibly established by empirical record. The man of experimentation, opportunity and thought has surely, here as elsewhere, accomplished his share in the chain of progress when he hands to his colaborer a statement of fact based on balanced observation.

GUM ARABIC FROM ARGENTINA

A new source for gum arabic is indicated in the report of Trade Commissioner Smith, who has forwarded to the Bureau of Foreign and Domestic Commerce samples of gum arabic which were collected in the forests of Argentina. It is stated that ten tons of the product could be prepared for shipment within a month and that shipments of approximately the same quantity could be made monthly thereafter. American importers are urged to interest themselves in this proposition. At present no information is available as to how the product compares with gum arabic from other sources.

Foreign journals report the election of Dr. H. Matthes to the ordinary professorship of pharmacy in the University of Konigsberg, and Drs. E. Ebler and K. Mannich ordinary professors of inorganic and analytical, and pharmaceutical chemistry, respectively, at Frankfort University, Frankfort, Germany.

THE QUESTION BOX

The "How to Do It" Department

CONDUCTED BY PHARMACEUTICAL EXPERTS

For the benefit of ERA Subscribers

Solidification of Formaldehyde

(X.Y.Z.)—"We had a gallon jug of formaldehyde, now we have two-thirds of a gallon of paste. Can we use it or get it out of the jug in any way without breaking the jug?"

The change in the solution to a paste which you report is evidently due to the separation of paraformaldehyde, which, according to various authorities, is but slowly soluble in water, and while we do not believe that any treatment which can be recommended will restore the paste to liquid form, it may be that by slightly warming the solution and adding a small quantity of methyl alcohol, the preparation will tend to clear up. In any event, however, the solution should not be too strongly heated, as when it is boiled, a portion of the gas is polymerized and becomes insoluble, separating as a soft, white, flocculent mass.

According to the British Pharmaceutical Codex, in solutions of greater concentration than 38 per cent, the formaldehyde tends to become converted into the solid polymer, paraformaldehyde, to prevent the deposition of which, solution of formaldehyde usually contains some methyl alcohol. The U.S.P. also makes a somewhat similar statement, and directs that the solution should be preserved in a moderately warm place, protected from the light. In our opinion it is doubtful if any attempt at liquefying the paste will prove satisfactory; for most purposes for which formaldehyde is used, it would be far better to use a fresh supply of known strength.

Books on Window Decorating

(B.S.)—There are a number of books on window dressing which emphasize the general principles that apply to advertising any kind of business through the medium of the store window, and usually these principles apply equally well to the drug business. Here is a list of some of them;

Mason, Window Displays for Druggists	$1.00
Farrington, Retail Advertising for Druggists and Stationers	2.00
Cowan and Bates, Show Window Backgrounds	1.50
Art of Decorating Show Windows and Interiors	3.50
Godinez, Display Window Lighting..........	2.00
Window Trimmer's Handbook.............	1.50

Removing Walnut Stains from the Hands

(X.Y.Z.)—Besides an oil and other constituents, walnut shells contain a substance resembling pyrogallic acid which imparts a brown stain to the skin which is somewhat difficult to remove. However, different authorities have recommended the application of a solution of chlorinated soda (Labarraque's solution) or solution of chlorinated potassa (Javelle water), or warm chlorine water. A weak solution of tartaric acid in water has also been suggested, with the further admonition to wash the hands thoroughly with soap and water at the end of the operation, and then apply a little perfumed lanoline to soften the skin.

Some professional cleaners use a small amount of sodium sulphide in water to which a few drops of hydrochloric acid have been added for removing walnut shell stains from clothing. The stain spot is daubed with the solution and afterwards rinsed thoroughly with water. Of course, the dye and the fabric should first be tested to make sure this treatment will damage neither.

What is Lecithin?

(T. P. D.)—According to the dictionary definition, lecithin is a complex nitrogenous fatty substance, occurring widely spread throughout the animal body. It is found in the blood, bile, serous fluids, brain, nerves, yolk of eggs, semen, pus, and white corpuscles. It is a colorless, slightly crystalline substance soluble in alcohol, and chemically looked upon as the glycerophosphate of neurin, in which two atoms of hydrogen are replaced by two atoms of stearic, palmitic, or oleic acid. According to C. Gordon Richardson (National Standard Dispensatory), it is also found in the vegetable organism and plays an important part in the vital processes, vegetable lecithin differing from animal lecithin in containing betaine in place of choline, and in being insoluble in alcohol, but soluble in all proportions of ether.

Animal lecithin is the kind employed in medicine under the general name lecithin, and is found chiefly in the nerve and brain tissue and in the yolk of egg, in which latter it exists in combination with nuclein as vitellin. It is prepared by extracting yolk of egg with absolute alcohol, and occurs as a yellowish-brown waxy solid, of peculiar odor, soluble in an equal volume of cold absolute alcohol and readily soluble in chloroform, petroleum benzin, and fatty oils, but less readily soluble in ether. It is insoluble in water and sodium chloride solution, but swells in the same, and is incompatible with alkalies. It should be kept in well-stoppered bottles, protected from light; on exposure to air it absorbs moisture. According to the authority quoted, the different lecithins contain from 1.73 to 1.86 per cent of nitrogen and from 3.84 to 4.12 per cent of phosphorus.

Lecithin is employed chiefly for its supposed action in improving the nutrition of the nervous system. It is stated to increase the number of red corpuscles and to raise their haemoglobin content, and has been prescribed in neurasthenia, anemia, tuberculosis and malnutrition, administered in the form of emulsion or elixir, or in pills, the dose being given as from 3 to

5 grains. The B.P.C. Formulary gives the following formula for the preparation of elixir of lecithin:

Lecithin	160 grains
Yolk of egg	2½ fl. ounces
Elixir of lemon	5 fl. ounces
Glycerin	5 fl. ounces
Distilled water to	20 fl. ounces

Place the lecithin in a mortar, add the yolk of egg gradually, with constant stirring; then add the other ingredients. Dose: 1 to 4 fl. ounces.

Petroleum Hair Grower and Dandruff Remedy

(J.W.C.)—Petrolatum can be employed as the base of almost any dandruff remedy recommended for use in pomade form. Such a preparation in pomade form and also containing agents which are supposed to stimulate the growth of the hair, may be prepared after one of the following formulas;

(1)

Salicylic acid	30 grains
Borax	15 grains
Balsam of peru	30 minims
Oil of cinnamon	3 minims
Oil of bergamot	10 minims
Petrolatum	1 ounce

Mix well in the cold. Other essential oils or perfumes may be added in place of the oils named, if desired.

(2)

Balsam of peru	2 drams
Betanaphthol	4 drams
Benzoinated lard	1 ounce
Petrolatum	3 ounces

Mix well; shampoo the head, dry thoroughly, then apply this pomade, rubbing well into the scalp. Continue the treatment nightly.

(3)

(Lassar type)

Pilocarpine nitrate	30 grains
Quinine hydrochloride	60 grains
Precipitated sulphur	150 grains
Balsam of peru	6 drams
Woolfat	1 ounce
Petrolatum, enough to make	3 ounces

Mix well. Any desired scent may be incorporated.

In applying remedies of this character, it is usually directed to wash the head frequently with a fluid soap, made by mixing two parts of soft soap with one part of rectified spirit, suitably perfumed, afterwards washing the head with plenty of warm water so as to free the scalp from any traces of soap. Then apply the pomade and well rub in.

Restoring Essential Oils

(A.C.M.)—A general process for restoring old, bad-smelling essential oils, recommended by a German investigator a good many years ago, consisted in agitating the essential oil for fifteen minutes with a thin paste made of borax, bone black and water, and then filtering. The paste remains in the bottle, the oil being simply poured off. To restore the color, or rather to decolorize such oils, make a mixture thereof with equal volumes each of oil of poppy and of a saturated solution of common salt, and distill off the essential oil. It is stated that the latter will come over colorless, the coloring matter remaining in the fatty oil of the residue.

Just how well this treatment will work on oil of cloves which has become discolored by standing in a tinned-iron container, we are unable to state. As oil of cloves consists chiefly of eugenol, a phenol, a reddish color is to be expected when the oil comes in contact with iron, the color reaction doubtless, being further accentuated by the presence of furfural and other constituents present in the oil.

Wine of Cod Liver Oil Extract

(A.M.O.)—Here are three formulas for preparations containing the alcohol-soluble extractive of cod liver oil (gaduol or morrhuol), which is said to represent the alterative principles of the oil—iodine, bromine, phosphorus, etc.:

(1)

Morrhuol (gaduol)	80 grains
Fluidextract of licorice	3 fl. ounces
Glycerin	2 fl. ounces
Syrup of wild cherry	4 fl. ounces
Liquid extract of malt	8 fl. ounces
Compound syrup of hypophosphites	4 fl. ounces
Fuller's earth (in powder)	240 grains
Sherry wine, enough to make	40 fl. ounces

(2)

Gaduol	64 grains
Soluble iron phosphate	128 grains
Alcohol	4 fl. ounces
Glycerin	4 fl. ounces
Fuller's earth (in powder)	240 grains
Port wine, enough to make	64 fl. ounces

Mix the gaduol with the alcohol and add the fuller's earth; triturate well and add the glycerin and wine. Let stand a day or so shaking occasionally, then add soluble iron phosphate, previously dissolved in 1 ounce of hot water; filter, passing sufficient wine through the filter to preserve the volume. Color with caramel.

(3)

Gaduol	64 grains
Soluble iron phosphate	128 grains
Alcohol	4 fl. drams
Fuller's earth	64 grains
Port wine and claret wine, of each, equal parts to make	16 fl. ounces

Mix as directed in the preceding formula.

Sweeping Compound

(C. Pharmacy)—Most sweeping compounds on the market are said to be composed largely of sawdust and siliceous material, and some binding material like rosin, paraffin oil, or other substance. Here are two formulas;

(1)

Dry sawdust	10 pounds
Paraffin oil	2 quarts
Paraffin wax	2 ounces
Coarse salt	½ pound
Oil of eucalyptus	2 ounces
Sea sand	4 ounces
Aniline color, sufficient.	

Warm the oil and mix it with the melted wax; dissolve the anilin color in the mixture, add the oil of eucalyptus, and saturate the sawdust with the mixture. Then mix this thoroughly with the salt and sand. This gives the compound for rough wood floors. For use on polished floors and carpets, the oil may be reduced to one quart or even one pint, the quantities of the other ingredients remaining as above. Bismarck brown may be used as the coloring agent if it is desired to darken the compound, or the dye may be omitted altogether. In place of oil of eucalyptus, creolin may be substituted.

(2)

Paraffin oil	30 fl. ounces
Sawdust	7 pounds
Ground oil cake	10 pounds
Linseed meal	5 pounds
Oil of eucalyptus	3 fl. ounces....

The Progress of Pharmacy

Ramie Fibre as a Surgical Dressing—

A process has been devised for the manufacture of a completely degummed and bleached ramie fiber which has been utilized for making surgical dressing. Experts of the American Red Cross service who have tested dressings so made report that "sterilization showed no change in the absorbability of the ramie, and very little change in the consistency of the material, with less tendency to pack than in the case of absorbent cotton." Army officials have pronounced the material to be, as compared with absorbent cotton, lighter, longer in the fiber, equally convenient in handling, and superior in absorbent qualities. According to reports sent to Commerce Reports by Consul Ross E. Holaday, Manchester, England, samples submitted to English surgeons and hospitals have elicited favorable commendation. Full details of the process of degumming the fiber are not available, but the invention seems to provide for turning out not only surgical dressing but fibers for use in the textile industry.

Preparation of Fluidextract of Ipecac—

F. F. Berg objects to the present method of preparing fluidextract on the ground that extraction is difficult and the resinous matter clouds the syrup. As a result of various experiments he proposes moistening 1000 Gm. of the drug with 250 Cc. warm 2 per cent hydrochloric acid; after standing over night this is treated with a menstruum consisting of 3 vols. of alcohol (U.S.P. 95 per cent) and 1 vol. of water. Maceration proceeds for 48 hours, then percolation till exhaustion. The weak percolates are distilled and the alcohol recovered. The residue is taken up in 40 per cent alcohol, filtered to remove the separated resins and adjusted to strength. The advantages claimed for this method are; (1), exhaustion is hastened by the warm acid; (2), 71 per cent alcohol is the best solvent for the active principles; (3), the alcohol may be recovered; (4), by taking up the residue with 40 per cent alcohol a preparation is obtained which does not precipitate, and is miscible with syrup without the addition of acid.—(*J. Am. Pharm. Assn.*).

Cardamoms from India—

The cardamoms which enter into the export trade of India are obtained from the capsules of a perennial herb, *Elettaria cardamomum*, indigenous to the humid forests of Western and Southern India, where it is extensively cultivated at elevations from 500 to 5,000 feet. There are about 20,000 acres under cardamoms in the Madras Presidency (chiefly the Malabar and Madura districts), Mysore, Coorg, and Travancore, and 5,000 acres in Bombay (chiefly in the Kanara district). The normal outturn per acre varies from 50 to 250 pounds, and a great deal is consumed in India as well as considerable imports from Ceylon. Two varieties of cardamoms are recognized, Mysore, round smooth-skinned capsules and Malabar, long, rough-grained capsules, known as shorts and short longs. The former are preferred and command a higher price. Cardamoms are chiefly used for medicinal purposes, for flavoring cakes and liquors, and as an ingredient of German sausages. The essential oil used medicinally as a carminative, and in connection with perfumery in France and the United States of America, is derived not from the Malabar or Mysore cardamom, but from the so-called "greater cardamom" of Nepaul (*Amomum subulatum*). The capsules which ripen in September and October are hand-gathered and sent down to the ports, and while some are dried and bleached in the sun before export, better qualities are generally cured more elaborately. After being sulphur-bleached the stalk end of each pod is carefully clipped, and the capsules are then graded. Such cardamoms at the present time fetch in London about double the price per pound of the less carefully prepared pods. In some quarters there has been an increased demand lately for dried green cardamoms which are supposed to be more highly flavored than the bleached cardamoms. Cardamoms which are packed for export from Madras ports in cases of 1 cwt. and bags of 126 or 140 pounds are usually consigned for sale to London auction rooms.—(*Ind. and East. Dr.*)

Hydrastine and Berberine in Austrian Hydrastis—

The culture of *Hydrastis canadensis* has met with success in Austria. A chemical study by Wasicky and Joachimowitz of specimens from Kornenberg shows that the plants grown are rich in alkaloids. The following table gives the amounts of hydrastine and berberine in the different organs of the plant:

	Hydrastine per 100 Gm.	Berberine per 100 Gm.
Secondary roots	1.90	2.00
Primary roots	3.77	3.00
Leaves	0.77	0.55
Buds and petals.......	1.12	1.18

—(*J. de Pharm. et Chim.* through *J. Pharm. Belg.*)

Evaluation of Saponated Cresol—

The following method is suggested by O. Schmatolla; To determine whether the sample has the correct content, first bring a layer of 4 Cc. concentrated sodium chloride solution into a 25 Cc. graduate, follow with 6 Cc. dilute hydrochloric acid, mix, then introduce exactly 5 Cc. of benzene, benzine or ether, and allow 10 Cc. of the sample slowly to flow into the graduate, thus filling to the mark, 25 Cc. Close with a stopper, shake one minute quickly and vigorously. On standing, 2 layers develop, but in order to detach the small droplets usually inclined to cling to the side, the graduate is sharply whirled between the hands in a vertical position. A reading may usually be made in 5 minutes. The lower aqueous layer should have increased to not more than 13 Cc., the upper should be at least 12 Cc., never less. The latter contains in addition to the benzene the total fatty acid and the cresol which has, however, taken on about 5 per cent of its weight in water, firmly combined; the lower layer on the other hand retains about 1.7 per cent of its weight in the form of cresol. To determine the solubility, add distilled water drop by drop and with shaking to 2 Cc. of the sample. Turbidity from the first additions is permissible, but later additions should leave the mixture clear, without shaking even in the highest dilution. On adding to the 1 per cent clear solution a little magnesium sulphate, an immediate white precipitation results, which slowly changes to flakes and may be filtered, washed, dried and weighed.—(*Pharm. Ztg.* through *Chem. Abs.*)

Volatile Oil and Ash in Sage Leaves and Stems—

The Pharmacognosy Laboratory of the Bureau of Chemistry reports the results of tests on the volatile oil and ash content of sage. Both the important Dalmatian sage, *Salvia officinalis L.*, and domestic sage were tested. The oil content of the Dalmatian sage exceeded the minimum requirement of 1 per cent, while the ash was under the limit of 10 per cent. The domestic samples were below the limit in volatile oil and above it in ash. A comparison of leaves and stems showed that in all cases the leaves contained approximately three times as much oil by weight as did the stems, thus justifying the government limitation of 12 per cent stem material in imported sage. It was found that the herbaceous portions of the stems contained much more oil proportionately than the woody portions.—(*J. Am. Pharm. Assn.*).

Determination of Hydrastine—

The determination of hydrastine in *Hydrastis canadensis* and its galenical preparations is said to be more accurate if the silicotungstic acid method is used. Wattiez has investigated the method and concludes that the views of Bertrand are correct; the precipitate has the general formula $12\ WO_3SiO_2.2H_2O+4$ mols. hydrastine$+nH_2O$, and after ignition $12\ WO_3SiO_2$, which corresponds to four molecules of the alkaloid, making the factor 0.342.

The technique of the determination as applied to *Hydrastis canadensis* is as follows: 7.4 Gm. of the powder of the rhizomes, previously dried at 50° C., are placed in a 250 Cc. round bottomed flask provided with a reflux condenser and containing 150 Gm. of alcohol at 70°. This is placed on a boiling water bath for three hours. The original weight is maintained by the addition of alcohol. The mixture is allowed to cool, filtered, and 120 Gm. of the tincture, corresponding to 6 Gm. of the powder, is evaporated to a syrupy consistence. The residue is taken up by sufficient 25 per cent sulphuric acid to make a total weight of 15 Gm. After standing an hour the berberine sulphate is precipitated and after the addition of one Gm. of talc the solution is filtered off into a tared Erlenmeyer flask until 10 Gm. have been collected. This is made alkaline with ammonia, allowed to cool and 40 Gm. of ether added and the whole shaken vigorously for half an hour. After standing, 35 Gm. of the ethereal solution, representing 3½ Gm. of the powder, is decanted off, washed with distilled water and then extracted with a one per cent solution of hydrochloric acid, until it no longer gives the Mayer reaction. The aqueous acid solutions are united, filtered and warmed to drive off the ether. After cooling, the hydrastine is precipitated with 15 Cc. of 5 per cent silicotungstic acid, then heated to a boil. After standing twenty-four hours it is filtered, washed and calcined to constant weight. The result obtained, multiplied by 28.57, gives the weight of silicotungstic acid corresponding to 100 Gm. of the original powder. The same procedure has been successfully applied to testing both the fluidextract and the tincture of hydrastine, and the results have in all cases agreed very closely.—(*J. Pharm. Belg.*)

Antimony in Tropical Medicine—

R. G. Fargher has pointed out the therapeutic importance which has been assumed by antimony during the past decade in the treatment of tropical diseases. The use of tartar emetic became successful as a treatment for sleeping sickness in 1909, when Broden and Rodhain developed the method of intravenous injection. The exaggerated claims made for it, however, are to be regretted, since it is effective only in the early or tripanasome fever stage of the disease. In other tropical diseases antimony has been even more successful. It appears to be specific in cases of external and internal leishmaniosis and bilharziosis. In the case of this latter disease it is said to be prophylactic as well as specific. Good results have also been obtained in the treatment of granulomia, filariasis, guinea worm, papilloma, and cerebro-spinal fever. Rodgers has claimed its utility in malaria, but is not supported by other workers. In spite of this therapeutic importance of antimony, the number of its derivatives in clinical use is extremely limited. The preparations used are tartar emetic and similar compounds where the potassium is replaced by sodium, lithium or ammonium; Martindale's preparation of antimonious oxide, Ranham's finely divided metallic antimony, and one or two relatively unimportant colloidal preparations. Antimony compounds corresponding in constitution to the important organic arsenicals have not been made use of on account of the chemical difficulties incident to their preparation. The reactions which are useful in preparing the arsenicals do not work out when applied to the antimony compounds. The most hopeful method of preparing organic antimony derivatives is by the Bart reaction, which utilizes the reaction between diazotised amines and sodium antimonite. Of the compounds so far examined, p-acetylaminophenylstibniate (stibacetin) appears to be the most promising and is the only one for which clinical results are available. The results obtained indicate that it is efficacious in leishmaniosis and tripanisomiasis.—(*J. Soc. Chem. Ind.*).

Eugenol from Pimento Leaf Oil—

The Government laboratory of Jamaica has been conducting experiments for the production of pimento leaf oil from pimento leaves, although the director of agriculture reports that the authorities are not yet in a position to start production on a commercial scale. Pimento leaves yield about 1.8 per cent of eugenol, from which iso-eugenol and vanillin can be successfully obtained by the appropriate fermentation of pimento leaves. As eugenol is of high antiseptic powers, it is thought pimento leaf oil would find use in the United States as an antiseptic constituent of tooth pastes and toilet preparations besides serving for the manufacture of vanillin. It is estimated that Jamaica can produce 100,000 pounds of pimento leaf per annum from materials now wasted.—(*Commerce Reports*).

Bolivian Quinine Industry—

The headwater districts of the Beni affluents of the Amazon are the principal source of the Bolivian supply of quinine. The product is placed on the market under different names, such as "cascarilla," "calisaya," "cinchona," and "quina." The bark which is stripped from the trunk of the tree is known as "quina tabla" and that which is stripped from the branches is called "quina canuto," or "quill." The bark is well dried and exported in bundles of about 50 pounds. Until the beginning of the present century this industry was very prosperous, the price of the bark reaching 204 bolivianos per quintal of about 101 pounds in 1878 in the Yungas of La Paz. With the development of the plantation product, however, the Bolivian bark found itself unable to hold its former place in the world market. During the last few years prices have again become more favorable, the industry has taken on new life in Bolivia. The Apolo, Mapiri, Challana, and Nor Yungas districts are the principal producers, most of the exports passing through the west coast ports of Arica and Mollendo. According to Trade Commissioner W. L. Schurz, who writes from La Paz, exports of quinine bark during the period 1913-1918 were as follows; 1914, 45,633 kilos, valued at 26,538 bolivianos; 1915, 83,844 kilos, valued at 78,561 bolivianos; 1916, 168,670 kilos, valued at 158,488 bolivianos; 1917, 218,348 kilos, valued at 196,742 bolivianos; 1918, 190,528 kilos, valued at 168,919 bolivianos. Of the total production in 1918, the United States took 63.86 per cent; Great Britain, 15.81 per cent; and Spain, 9.48 per cent.

The Determination of Quinine—

The following method is suggested by Bamberger. 2.5 Gm. of cinchona bark are warmed for 10 min. with 2 Cc. of hydrochloric acid and 20 Cc. of water and mixed with 25 Gm. of chloroform and 50 Gm. of ether. Five Gm. of caustic soda solution are now added and after shaking enough gypsum is added to take up the water. The mixture is warmed, the ether-chloroform portion separated and extracted with hydrochloric acid, and the extract titrated.—(*Pharm. Zentralhalle* through *Chem. Abs.*)

New Books for Pharmacists

A TREATISE ON PHARMACY FOR STUDENTS AND PHARMACISTS. By Charles Caspari, Jr. late professor of pharmacy in the department of pharmacy of the University of Maryland. 6th edition, thoroughly revised by E. F. Kelly, dean and professor of pharmacy in the department of pharmacy of the University of Maryland. 8 vo., 954 pages, 329 illustrations. Philadelphia, Lea & Febiger.

As a treatise on general pharmacy, this book has been extensively used in colleges of pharmacy, many teachers unqualifiedly indorsing the late Professor Caspari's method of handling the subject. The new edition before us preserves the original method of presentation, the work having been done by Professor Kelly, long the assistant and associate of the deceased author, and his successor in the faculty of the University of Maryland. As in previous editions, the subjects have been grouped under three distinct headings. Part I comprises General Pharmacy, which includes the study of weights and measures, specific gravity, the application and control of heat, mechanical subdivision of drugs, methods of solution, separation, etc., with a classification and description of the various plant products and solvents used in pharmacy. Part II treats of Practical Pharmacy, which includes a study of the official galenical preparations, operations at the dispensing counters, while Part III is devoted to Pharmaceutical Chemistry, a subject of paramount importance to every student of pharmacy.

Comparison with the previous edition brings to light and shows in this text where additions and deletions have been made, as in the chapter on Pharmacopoeias we note that more emphasis has been given to the character of the National Formulary as an official standard. In Part I a chapter on light and a chapter on sterilization have been added, and a considerable revision and rearrangement of the text and illustrations are noted in the sections devoted to the mechanical subdivision of drugs and similar topics. In Part II, the sequence of the chapters has been changed, and much new matter introduced relating to developments in dispensing methods and problems in practical pharmacy. The presentation of the subject of pharmaceutical chemistry in Part III is most satisfactory, special attention being given to most of the chemical reactions the pharmacist will encounter in his practical work. It is in the application of this knowledge that the solution of many difficulties in dispensing is to be found. Indeed, as a guide to the intelligent study of the Pharmacopoeia and National Formulary, and an authority on pharmaceutical problems generally, Caspari's Pharmacy in this revised edition will continue to merit the popularity it has so long enjoyed.

A LABORATORY MANUAL OF QUALITATIVE CHEMICAL ANALYSIS for students of pharmacy. By Theodore J. Bradley, A.M., B.S. Ph.G., dean and professor of analytical and organic chemistry in the Massachusetts College of Pharmacy. 8 vo., 136 pages, cloth. Philadelphia and New York, Lea & Febiger.

As stated above, the author of this book is a teacher, and he explains that it has been prepared as a manual for his own classes, the objects sought being to acquaint the student with the general methods of qualitative analysis and to prepare him to carry out such qualitative tests as the pharmacist may be called upon to make. To this end the course is arranged to include one hour of lecture, one hour of recitation and about three hours of laboratory work per week for one school year. Practice on the analysis of unknown solutions is provided for throughout the course. This is important, as it not only increases the interest of the student in the work, but also develops his self-reliance by constantly putting him upon his own responsibility in doing his work and interpreting his results. This method agrees with the experience of all successful teachers of chemistry and it is satisfactorily exemplified in this book.

The book opens with an introductory section on the theory of chemistry which defines matter, its changes, structure, composition, etc., symbols, formulas, chemical equations, atomic weight, valence, acids, bases and other facts leading up to chemical analysis. The separation and identification of the metals of the several groups are then discussed, with the identification test for each metal in each group, in each case the important compounds of each metal being given, together with a number of equations to be balanced showing the formation of such compounds. The separation and identification of acids are then taken up under three heads or groups, as Group A, acids whose radicals are precipitated by silver nitrate in the presence of nitric acid; Group B, acids whose radicals are precipitated by barium chloride, from a neutral solution, and Group C, acids whose radicals are not precipitated in either of the groups named.

There is also a section on the examination of solids, which is followed by sections on the qualitative examination of official inorganic chemicals, general qualitative tests of the United States Pharmacopoeia, destruction of organic matter, the concluding text pages containing directions for the reagents and test solutions called for in the book, most of these, however, being identical with those specified in the U. S. P. The treatment of the entire subject is logical, and as a guide to the pharmacy student in the introductory study of the chemistry of the elements and their compounds the book is to be commended.

EMINENT CHEMISTS OF OUR TIME: By Benjamin Harrow, Ph.D. Associate in Physiological Chemistry, Columbia University. 12 mo. 248 pages, cloth. New York. D. Van Nostrand Co.

The author states in his preface that the chemists of our own time have been ignored in our histories of chemistry and it is the object of this work to fill the gap with brief biographical sketches of the men who have directed the progress of chemistry for the last generation or so. With the historical perspective in view, the author has attempted, to quote his own words, "to write a history of the chemistry of our times by centering it around some of its leading figures."

"This book aims to fill the wants of three classes of men: 1. The chemist who wishes an account of the labors of the most illustrious men of his profession. 2. The scientist, other than the chemist, who desires information in a closely related field. 3. The layman who wants a non-technical account of some of the more remarkable achievements in a science which is entering more and more into our daily lives."

With such aims in view, the first difficulty is met in choosing the men to be included and the author has taken eleven truly representative chemists, Perkin, Mendeléeff, Ramsay, Richards, Van't Hoff, Arrhenius, Moissan, Madame Curie, Victor Meyer, Remsen and Fischer. No partiality to any nation is to be found for the list includes two Americans, two Englishmen, three Germans, a Swede, a Hollander, a Pole and a Russian;—surely a cosmopolitan selection. Whether it was the best possible selection in view of the author's avowed intention of writing a "history of the chemistry of our time" is open to argument; there are so many one would like to see included, though it is difficult to select any of the present list for deletion.

The most glaring omission seems to be that of Ostwald; even while there is no special field of research in which he stands pre-eminent as does Fischer in the proteins and Madame Curie in the history of radium, there is no chemist among those included who has exerted more influence on the chemical thought and development of the last two generations. Why so prominent a figure was denied a place is a mystery unless the author feared the cry of pro-Germanism if representatives of that nation were allowed to predominate.

It is hardly fair to criticize the author for failing in his almost impossible task of writing in a manner acceptable to chemist and layman. The chemist will deprecate the way in which important chemical discoveries are passed over in a few words while the lay reader will shrug his shoulders in despair over these same brief comments. Both however will unite in appreciating the glimpses offered of the personalities of these eminent men of science. The personal side has been emphasized and properly so, for we know all too little of the men whose names are so familiar in journals and text books.

The book is not only enjoyable but decidedly suggestive in several ways. Whether or not it was the author's intention he has written an excellent explanation of why Germany was predominant in the chemical field; no one reading the sketches of the different men can fail to be struck by the contrast between the treatment accorded eminent chemists in Germany and in other countries and the section on Van't Hoff illustrates how the German universities reached out for the best foreign talent. Another impression which will be left on every reader will be of the tremendous influence which a really great teacher exerts through his students on the scientific life of the next generation. The book is well worth-while if only for these two points.

The book is attractively bound and the heavy type on a good quality of paper relieves the eyes, but it suffers from the bane of so many recent publications, careless proof-reading. Surely books are sufficiently expensive that the purchaser may reasonably demand a mechanically perfect copy and not be confronted with careless spelling and typographical mistakes. (One is also a little surprised at the unusual prevalence of exclamation points.)

UNITED STATES GEOLOGICAL SURVEY: Mineral Resources of the U. S., 1917. Part II, Non-Metals, G. F. Loughlin, geologist in charge. 8 vo., 1293 pages, cloth. Washington, Government Printing Office.

This volume will be found of particular interest to many pharmacists, as it contains a vast amount of information relating to the sources, natural history and production of chemicals and related products employed in pharmacy. Thus, phosphorus was once made from bones by leaching them with sulphuric acid in lead lined tanks, but now electrical processes have largely replaced the older methods of its manufacture. In connection with the manufacture of sulphuric acid, statistics show that the value of the total production for 1917, was $87,540,181, $14,000,000 greater than the value in 1916. It is noted that diatomaceous or infusorial earth besides being largely used as an abrasive is now extensively employed for many other purposes. It is used by sugar refiners for filtering or clarifying; as an insulating packing material for safes, steam pipes, boilers, and metallurgic apparatus, in making insulating brick, and as a fireproof building material. In this country it is used in the manufacture of records for talking machines, while some of the other uses named are in the manufacture of water glass, of various cements, of glazing for tiles, of artificial stone; as a carrier of ultramarine, and various pigments, aniline and alizarin colors; in filling paper; and in the preparation of sealing wax, fireworks, gutta percha objects, Swedish matches, solidified bromine, scouring powders, and many other articles.

Other subjects in this volume which will interest the pharmacist are the monographs on sodium and potassium compounds, mineral waters, bromine, calcium chloride, the by-products of coke, etc., all of which have some connection with the scope of his work. It is this fundamental information which takes the pharmacist out of the narrow confines of his store and enables him to better understand his relation to the manufacturing industries of the world.

YEAR BOOK OF MERCHANTS ASSOCIATION

The Year Book of The Merchants Association for 1919-20 is now being distributed. It contains 334 printed pages and it gives a summary of The Association's activities for the year ending May 1, 1920. The names of the officers of the Association with alphabetical and classified lists of its members, together with the personnel of its thirty-three standing committees and its staff are included in the book.

Reports are presented of the work of the Traffic Bureau, Foreign Trade Bureau, Industrial Bureau, Legislative Service, Convention Committee, and the various lines of activity in which the members took part.

"The War Activities of McKesson & Robbins, Inc." is the title of an interesting pamphlet which is being mailed to the trade by that concern. The story was written for The Manchester Guardian's History of the Great War and deals altogether with the successful war work done by the firm from the time the United States declared war until the demobilization of the army. The pamphlet also contains a splendid picture of John McKesson, president of the company, and a brief story of his life.

NEW USES FOR MAGNESIUM

The lightest metal now known that remains comparatively unaltered under ordinary atmospheric conditions is magnesium, which is only two-thirds as heavy as aluminum, states a U. S. Geological Survey Bulletin. Magnesium is a beautiful silvery-white metal that has been made in the United States only since 1915 and is now made at three plants. It is known chiefly as a silvery powder used for making flashlights in photography. It was imported from Germany for this use for many years. During the world war large quantities of powdered magnesium were made in the United States for use in star shells designed to illuminate battle fields at night, as well as in special shells designed to show in the daytime exactly where the shells containing it exploded. The white cloud by day and the brilliant white pillar of fire by night—both striking features of the battle fields of the world war—were produced by the combustion of magnesium.

Magnesium in massive form, as sticks or rods, is used to deoxidize other metals in foundries and is a constituent of alloys. More magnesium is now used as a deoxidizer or scavenger in metallurgy than for any other purpose, but its employment in alloys is increasing and may eventually become the largest one. An alloy of magnesium and aluminum is used in making castings for aircraft engines and parts of airplanes. The skeleton of the British airship R-34, the first dirigible to cross the Atlantic, is an alloy of aluminum and magnesium, and the yacht Resolute, the defender of the America's cup in the races in July, 1920, as well as the alternative defender, Vanitie, carried gaffs made of this alloy.

The demand for metallic magnesium has slackened since the war, however, and in 1919 its production in the United States amounted to 127,465 pounds, valued at $247,302, a decrease of 55 per cent in quantity and 60 per cent in value from 1918.

Professional & Trade Associations

HILTON NEW PRESIDENT OF A. Ph. A.

Washington Man Elected on Mail Ballot Carried on in October—Dues Raised and Journal and Year Book Will Be Continued

As a result of the mail ballot which was held during the last month by the members of the American Pharmaceutical Association, the Board of Canvassers of the organization announce the election of the following officers for the ensuing year:

President, Samuel L. Hilton, Washington, D. C.; first vice president, Charles E. Caspari, St. Louis, Mo.; second vice president, David F. Jones, Watertown, S. D.; third vice president, Hugo H. Schaefer, New York, N.Y ; members of the Council, Henry M. Whelpley, St. Louis, Mo.; George M. Beringer, Camden, N. J., and John G. Godding, Boston, Mass.

The newly elected officers will be installed at the annual meeting to be held at New Orleans, La., early in September, 1921.

On a referendum ballot the proposition to raise the dues to $7.50 per annum and to continue the association's journal and year book was carried.

WHOLESALERS ELECT OFFICERS

Cincinnati, O., Nov. 20.—The election of officers of the National Wholesale Druggists Association resulted in the choice of L. D. Sale, of Los Angeles, Cal. for president. The five vice presidents elected are: Alfred Vogeler, Cincinnati; John W. Durr, Montgomery; Frank Junkermann, Cedar Rapids; H. L. Waterbury, Troy, and H. S. Weller, Omaha.

Four new members of the board of control were elected to succeed those whose terms expire at this time. The new members are: W. J. Mooney, Indianapolis; H. H. Robinson, Baltimore; C. F. Michaels, San Francisco, and L. M. Smith, St. Joseph. F. E. Holliday was appointed secretary and C. H. Waterbury assistant secretary.

Twelve active and twenty-five associate members were elected.

The legislation committee recommended, among other things, the repeal of the existing proprietary stamp taxes at the earliest possible date. The report was referred to the board of control.

Atlantic City was selected as the next meeting place. The reports of the committees on fire insurance, transportation, prize contest and prevention of adulteration were presented by the chairman and were referred to the board of control.

The committee on president's address recommended the adoption of a resolution indorsing the president's recommendation that the association approve a Great Lakes to sea deepwater ways project. This resolution was approved by the membership. The association also approved that part of the report which recommended the appointment by the new president of a special committee to confer with colleges of pharmacy on the proposal to incorporate as a part of their curriculum comprehensive courses in merchandising.

The board of control reported favorably on the commission method of compensating salesmen in general. The recommendation of other committee reports were also generally indorsed by the board of control.

The name of the committee on prevention of adulteration was changed to "committee on quality of medicine products" to conform more nearly with the actual activity of the committee.

NEW YORK BRANCH HEARS DR. KREMERS

Lectures on His Chemical Investigation of a Typically American Genus of Plants and Declares that Each Additional Research Suggests New Lines of Work

"A Quarter Century of Chemical Investigation of a Typically American Genus of Plant" was the subject chosen by Dr. Edward Kremers of the University of Wisconsin for his address to the New York Branch of the American Pharmaceutical Association, Nov. 9. The possibilities of research and the way in which it ever widens the field of vision and of work was the main thought which Dr. Kremers wished to impress on his audience.

To illustrate this he discussed a portion of the work which has been carried on under his direction at Wisconsin University on the *Monarda punctata* (common horse mint) and its congeners. Thymol has long been recognized as a constituent of the essential oil of this plant and he showed how the study of thymol and its formation in the plant led to a further study of the changes, the auto-oxidation and -reductions, which it can undergo in the plant organism. Carrying out this line of investigation led to the discovery of a connection between the perfume-giving constituents and the coloring matter of the plant and possibly the alkaloidal principles as well. This connection is illustrated by the contrast between *Monarda punctata* and *Monarda didyma* (bee balm). The former has a blossom of light color but the oil is strongly aromatic, owing to the thymolic constituents; in the latter the thymolic principles have changed to the pigment class, giving a deep-colored blossom and an oil with practically no thymol. One curious point brought out was that *Monarda punctata* grows on sandy soil and contains thymol, while the *M. fistulosa* which grows on a clay loam contains no thymol, but its isomer carvacrol.

The chemical changes which go on in the plant were illustrated by structural formulas showing the interrelationships of the different substances involved and the ease with which the thymol-like compounds are converted into the pigment-forming products. These relationships were made especially vivid by the samples which Dr. Kremers exhibited representing the series of compounds, starting with thymol, and including on one hand its reduction product, the terpene, and on the other, the various oxidation and condensation products, which are formed in the stages of its conversion into the pigments and alkaloidal principles of the plant. The complicated chemistry of the plant processes was clearly dissected and displayed on the blackboard and lecture table.

Dr. Kremers touched only lightly on the commercial value of his work but stated that *Monarda punctata* could be made a profitable crop on the sandy waste lands if it could be sown on a large scale. Its blossoms attract the bees and furnish excellent honey, the plant is a source for thymol and after this is extracted, it may be used as a substitute for hay.

In spite of the intensive work carried on for twenty-five years in this limited field, said Dr. Kremers, the possibilities have been by no means exhausted, in fact each additional piece of research which is carried out suggests new lines of work. If this is true of a single genus of plants it is difficult to conceive the work which remains to be done before we have a real knowledge of the native American botanicals.

Preceding the meeting, which was largely attended, an informal dinner in honor of Dr. Kremers was attended by members of the Branch and their guests.

CHICAGO BRANCH

Dr. Edward Kremers of the University of Wisconsin was warmly welcomed by a large audience which filled the lecture room of the College of Pharmacy at the 112th meeting of the Chicago Branch of the American Pharmaceutical Association, held on Friday evening, Oct. 29. As speaker of the evening he delivered a lecture entitled "Evolution of the Apothecary and his Shop," presenting his subject as only such an authority on pharmaceutical history could do. The many lantern illustrations showing the evolution of the pharmacy from the "apotheccia" or medicine chest of Egypt and Greece, 1500 B.C., to the most modern drug store, added greatly to the appreciation of the lecture.

At the outset the speaker gave the derivation of the word "apotheke," i. e. a place for storage, as shown in the modern German word for library, viz., "bibliothek," a storage place for books. One of the art galleries in Munich, the "Pinakothek," is a storage place for paintings. The word pharmacist is derived from another Greek word meaning a medicament.

The precursors of the modern apothecary and his shop in Egypt were the priests and later, charlatans, while in Greece they were represented by the root cutters, ointment makers, ointment sellers, etc. In Rome they were the medicine peddlers, and herbalists, ancient history making reference to a street of the ointment makers. Among the Arabians there were hospital pharmacies, the first public pharmacy in Bagdad being mentioned in the 8th century. In the Christian countries monastic dispensaries appeared.

The evolution of the modern apothecary or pharmacy is shown by the opening of the first public apothecary shop in Naples in the 11th century. Then came the separation of pharmacy from medicine, the establishment of apothecary shops in Germany dating from the 12th century. In the speaker's outline these were represented by 1, hospital dispensaries; 2, court apothecaries; 3, municipal apothecaries, a, real concessions, b, personal concessions. The evolution of the "chemist and druggist" in England was shown by reference to the physician and his assistant, the apothecary; the apothecary a medico-pharmaceutical practitioner; the grocers or sellers "engros," the "chemist and druggist," and the modern "pharmaceutical chemist." In the United States pharmacy was early developed along English lines, followed by the advent of the German "apotheker." Legislative restrictions and State control represented another step forward, with the modern drug store groping to meet the demands of the people.

Preceding the lecture, the officers of the branch gave a dinner to Dr. and Mrs. Kremers at the Hotel LaSalle.

At the 113th meeting of the Chicago branch held on the evening of Nov. 18, many pharmacists were present, including members of the Executive Committee of the N.A.R.D. and of the Illinois Ph.A., the principal feature of the program being a discussion of the subject "The Future for the Young Man and Woman in Pharmacy." J. J. Possehl, president of the N.A.R.D., led off the discussion by asserting that just as long as people seek the service of their physicians, so long will there be a future for the professional pharmacist. Remuneration to the extent of a good livelihood is always certain in pharmacy, and pharmacy will repay to the full extent whatever one puts into it, service to the community bringing greater returns than monetary achievement. Mr. Possehl stated that the dispensing doctor was not proficient in his own profession and therefore tries for success in another. "Don t be afraid of him."

Samuel C. Henry, secretary of the N.A.R.D., said there was nothing that grated on his ear quite so much as to hear a pharmacist decrying his profession. He referred to the conditions which obtained when he entered pharmacy and those existing now. There has been an advance, and if we have aided in the uplift of our profession, even though we may not have accumulated wealth, our lives have been well spent.

J. F. Finneran, chairman of the Executive Committee, Boston, said that the pharmacy of the future will be whatever pharmacists make it and it will depend on service. Show physicians the character of your work and have only one thought regarding the quality of the medicines you dispense. The best friend you have in the world is a good competitor.

J. H. Riemenschneider, of Chicago, said there was no such thing as luck in the drug business. To make a success you must like your business. He had never attended a pharmaceutical meeting without feeling that he had been well repaid for the effort. C. J. Clayton, of Denver, Colo., said that it was surprising pharmacy had been favored with so many broadly successful men and women. "Our business," he said, "is the practice of pharmacy, but we sell other things to make a living; we are not profiteers, but rather 'pikers,' not being properly paid for our professional service. Don't be afraid of being classed as a professional man."

Sidney Schmidt of Chicago, said he was convinced that the recent marked increase in salaries will have a far-reaching influence in the permanent uplift of pharmacy as a recognized profession. Thomas Potts remarked that the infamous nightbell had gone forever. "It isn't every young man or woman who is adapted to the retail drug business. But when one finds that he is so adapted he can make pharmacy a life-long work, and if he becomes incapacitated by sickness or age, the business can be profitably continued in the hands of competent persons. This is not generally true of the physician, dentist or lawyer." Prof. W. B. Day said he was convinced there was no need for any young person now entering upon pharmacy or contemplating its practice as a life work to become discouraged. It has been said that the professional side of pharmacy was becoming extinct, but he was firmly of the opinion that professional pharmacy was just entering into its own and would soon receive greater recognition, this because higher preliminary and professional training is now demanded of the young people going into pharmacy.

Other speakers who joined in the discussion were Charles H. Huhn, of Minneapolis; Walter H. Cousins, of Dallas, and John H. Webster, of Detroit.

Prof. A. H. Clark presented an abstract of his paper on "Ointment of Zinc Oxide," the paper being approved for publication.

DETROIT BRANCH

The principal feature of the November meeting of the Detroit branch of the A.Ph.A., held in the auditorium of the Wayne County Medical Society, was the paper on "Glycerin and its Functions," presented by Prof. E. A. Ruddiman. The paper dealt with all the elixirs, syrups and solutions of the U.S.P. and N.F. containing glycerin, the various preparations reported on being compared with samples in which water, glucose, invert sugar and syrup respectively were substituted for glycerin, all of the samples being under observation for a period of two years. In nearly all of the preparations to which the work of Dr. Ruddiman was confined, the use of glycerin in small percentages did not appear to be of any particular advantage in so far as solution or preservation was concerned.

After the reading of the paper a lively discussion ensued, among those taking part being Wilbur L. Scoville, L. A. Seltzer, J. H. Webster, Ernest R. Jones, W. H. Blome, F. T. Bradt and William A. Hall.

Among the out-of-town members present was Dr. A. B. Stevens, formerly dean of the College of Pharmacy, University of Michigan, now a resident of Escondido, Cal.

An exceptionally well attended dinner preceded the meeting.

The officers of the Detroit branch are: President, Walter M. Chase; vice president, Charles H. Stocking, treasurer, Frederick F. Ingram, Jr.; secretary, Crosby B. Washburne; chairman program committee John C. Moore.

VIRGINIA BRANCH

More than twenty members were present at the meeting of the Virginia branch of the A.Ph.A. at its meeting held on Oct. 21, at the office of the Board of Pharmacy, Capitol Building, Richmond. The branch elected W. G. Crockett, chairman, and A. L. I. Winnie, secretary, for the ensuing year.

NEW HOME FOR NATIONAL SOCIETIES

The National Academy of Sciences and the National Research Council are to be housed in a new building in Washington. The site, which has recently been selected, is an admirable one, and represents a cost of about $200,000, which has been secured through the generosity of friends and supporters. The site comprises an entire block bounded by B and C and 21st and 22d St. N. W. and faces the Lincoln Memorial in Potomac Park. Funds for the erection of the building have been provided by the Carnegie Corporation of New York.

IDAHO PH. A.'S ANNUAL MEETING

The Idaho Pharmaceutical Association, which held its 14th annual meeting at the Owyhee Hotel, Boise, on Oct. 9 and 10, adopted the following recommendations submitted in the vice-president's address; The appointment of an auxiliary committee to co-operate with and assist the legislative committee; the amendment of the present pharmacy law giving recognition to the assistant pharmacist; favoring the repeal of the present taxes imposed upon soda water and toilet articles, and opposing the adoption of any form of tax not equitably applied to wholesalers, manufacturers and retailers.

Paul Davis of the department of law enforcement, pharmacy division, made an address in which he explained the State laws applying to the practice of pharmacy. Prof. Eugene O. Leonard, dean of the pharmacy department of the Idaho Technical Institute, also made an address, at the conclusion of which a resolution was adopted recommending that the State board of pharmacy make the course of the pharmacy school at Pocotello two, three, and four years, optional with the student and suggesting that the period of practical training be made two years for graduation.

C. M. Isenberg of Ashton, presented the report of the committee on trade interests, after which a resolution was adopted stating that it was the consensus of opinion that credit extension should be limited, and that the association wished to go on record as being in favor of shorter term credit. R. W. Smith of Mountain Home, suggested that a questionnaire be sent to all the members of the association requesting information concerning the local prices of retail articles, the problem of help, the collection of taxes, and other facts which would be of value to druggists in the conduct of their business.

The following officers were elected; President, Frank Murray, Twin Falls; vice-president, D. S. Whitehead, Boise; secretary, T. M. Starrh, Boise; treasurer, C. M. Isenberg, Ashton. Boise was selected as the place of next meeting, the date of the same to be October 13 and 14, 1921.

The ladies of the members were entertained at a luncheon at the country club, while the convention closed with a banquet for the members in the Orange grill room of the Owyhee hotel.

DRUG MANUFACTURERS ELECT W. A. SAILER

W. A. Sailer

W. A. Sailer of Sharp & Dohme, Baltimore, has been elected president of the American Drug Manufacturers Association to complete the unexpired term of the late R. C. Stofer, former president of the Norwich Pharmacal Company, Norwich, N. Y., who died early last September. The term of Mr. Sailer will extend until April 14, 1921, at which time the annual election is scheduled. W. A. Sailer, secretary and general manager of Sharp & Dohme, became associated with the latter company in December, 1908, after having spent years in the service of John Wyeth & Brother of Philadelphia. Mr. Sailer has always been an active member of the Association, serving for several years as a member of the Executive Committee.

W. J. Woodruff, secretary of the Drug Manufacturers Association has announced that the next annual meeting of the organization will be held in New York, April 11 to 14, 1921. The hotel at which the convention will be held has not been selected as yet and will be announced later. Last year, the meeting was held at the Biltmore and in previous years at the Waldorf-Astoria.

SODA WATER FLAVOR MEN MEET

The National Manufacturers of Soda Water Flavors held its fifteenth annual convention in Cincinnati recently and adopted resolutions calling for the repeal of wartime legislation which interferes with the manufacture of soda water flavors; objecting to the ruling of the food officials to the effect that the amount of capsicum contained in ginger ale be displayed on the label; protesting against the adoption of the Haugen package bill; urging the adoption of the Calder bill which calls for the uniformity of state food and drugs acts; protesting against the high rate charged by bonding companies for furnishing bonds to users of alcohol; protesting against the red tape necessary to be unwound for the procurement of permits to obtain non-beverage alcohol; thanking the trade press for the publicity and support given the work of the association during the preceding year and requesting its co-operation for the coming year.

The following officers were elected: C. O. Sethness, of Sethness Company, Chicago, Ill., president; H. C. Schranek, of H. C. Schranek Company, Milwaukee, Wis., vice president; H. E. Harrison, of The Liquid Carbonic Company, Chicago, Ill., treasurer; and Thomas E. Lannon, Chicago, Ill., secretary. The directors are the foregoing and Hugh J. McMackin, of Hugh J. McMackin Company, Boston, Mass.; Charles O'Connor, of S. Twitchell Company, Philadelphia, Pa.; Henry Magnus, Chicago, Ill.; C. H. House, of Jacob House & Sons, Buffalo, N. Y.; and Samuel Mutch, of Whittle & Mutch, Philadelphia, Pa.

MAKING FINISHED PERFUMES AN ART

The Flower Fields of France and the Laboratories the Subject of Lecture by Burton T. Bush before Members of N. Y. Section of Societe de Chimie Industrielle

The manufacture of natural and synthetic perfumes was described at the meeting of the New York Section of the Societe de Chimie Industrielle at the Chemists Club, Nov. 12. The local section of the French society was organized last year for the purpose of promoting the entente established by the war between French and American chemists, one of the prime movers being the president, Marston T. Bogert.

Burton T. Bush, president of the Antoine Chiris Company, which is well known as one of the largest importers and manufacturers of perfumes in this country, spoke on "The Flower Fields of France and the Laboratories as Allies."

That the preparation of finished perfumes is an art was one of the points brought out by Mr. Bush, who explained that the natural essences do not represent the exact odor of the flowers from which they are derived. In extracting the essential oils some of the constituents of the mixture are changed and probably some of the more delicate substances which have much to do with the attractive odor of the flowers are destroyed in the process or else are not extracted. Many changes can take place and as a result, the essences as obtained from the flowers are in some cases very different from what one would expect. All require blending and oftentimes the perfumes as sold represent a mixture of from twelve to fifty natural and synthetic products. To make these combinations requires a high degree of artistic sense and special ability.

Grasse is the center of the flower industry of France and around this little city, nestling between the Mediterranean Sea and the Maritime Alps, are grown each year millions of pounds of many sorts of perfume-yielding blossoms. This flower growing industry started over 600 years ago and the extraction of perfumes from the blossoms dates back 200 years. The most careful attention is given to the subject and the horticultural and technical problems are attacked in a thoroughly modern and scientific manner. The rose culture furnished an example of this. The rose grown now was obtained more than 300 years ago from the gardens of Shiraz in Persia. Careful cultivation has changed it from a rose of forty petals to one of fourteen, each of which gives its maximum of essential oil. Other roses have been tried but unsuccessfully. The lavender plant has also been under careful cultivation and now yields several times the amount of the valuable oil of lavender that can be obtained from the wild lavender, formerly the only source of the perfume.

The older method of obtaining the perfumes is by maceration or enfleurage. The less delicate essences may be extracted by the former process, which consists of stirring the blossoms into hot lard, straining and allowing to cool. The lard holds the essential oils of the flowers and when cold is known as a pomade. In the process of enfleurage, which is used only for the most delicate perfumes, cold lard is spread on glass frames and the flowers are lightly pressed on the surface by hand; after sufficient time for the perfume to be taken up by the lard they are removed and fresh flowers put on until the pomade is concentrated to the required degree. Thirty-six pounds of flowers to one hundred pounds of lard is the usual standard in both cases.

More modern methods are also in use which extract the blossoms in autoclaves with solvents, usually specially purified petroleum ether. Evaporation of the solvent leaves liquid or semi-solid residues containing all the essential oils and some inert substances such as waxes. These residues are known as concentrates. In making the essences the pomades and concentrates are extracted with alcohol giving the solutions which are used for blending into finished perfumes.

The blended perfumes frequently contain not only the natural essences but also synthetic perfume substances. Perfumes are so much in demand not only as such, but for perfuming soaps, powders, etc., that the natural essences could never fill more than a small fraction of the existing demand and their price, already sufficiently high, would be absolutely prohibitive to all but the most wealthy were it not for the synthetic products.

Ionone or synthetic essence of violet was one of the first and also most popular of these substances, over 18 tons being used last year. It has been followed by a great number of other products, some of which closely resemble the odors of certain flowers; phenyl-ethyl alcohol, as it is known chemically, resembles oil of rose while benzoyl acetate is similar to jasmine and is in fact the chief constituent of natural jasmine essence. Others of the synthetic perfumes do not resemble flowers but have characteristic and agreeable odors of their own and so prove useful either as bases for new perfumes or for "tinting" other essences.

Mr. Bush illustrated his remarks with slides of the flower fields of Grasse, its factories where the extraction is done and of American factories. The contrast between the artistically constructed French factories surrounded by beautiful gardens and the characteristic American factory construction was striking.

Another point made by Mr. Bush was the close connection between the synthetic perfume industry and the manufacture of pharmaceutical products and dyes.

BRITISH CHEMISTS COMING TO NEW YORK

The American Chemical Society has arranged to entertain and convene with members of the British Society of Chemical Industry who cross the Atlantic to attend the annual meeting of the British Society which is to be held at Montreal next year.

The meeting will be held August 29 to August 31. On the night of August 31 the British and Canadian chemists will go by special train to Grand Mere and Shawinigan Falls, where they will spend the following day. A special train will leave the Falls on the night of September 1st and will arrive the following day at Ottawa. Another special will leave Ottawa on the evening of September 2nd for Toronto, where the 4th of September will be spent.

The visitors will reach Niagara Falls on the Canadian side on Monday, September 8, and the following day will be spent on the American side, inspecting the large electro-chemical plants in the vicinity. They expect to reach New York City on September 9, where they will meet with the New York Section of the Society of Chemical Industry and the American Chemical Society. The British delegates will attend the Chemical Exposition which opens September 12.

The Maricopa County Retail Druggists Association was recently organized at Phoenix, Arizona, and the following officers elected; President E. Carter Mason, Phoenix; vice-president, Roy Wayland, Phoenix; secretary-treasurer, D. P. Kimball, Phoenix; executive committee, H. B. O'Brien, Andy Miller and C. P. Dunn. At the organization meeting it was decided to issue a call for a convention of the druggists of Arizona to be held during the week of the State Fair in November to discuss legislation prior to the session of the legislature next January. The question of forming a State pharmaceutical association will also be considered.

Schools and Colleges

FORDHAM UNIVERSITY

The present junior class of the College of Pharmacy of Fordham University has in its membership students from many different States, and prides itself on being the largest class numerically so far enrolled in the history of the college. On Oct. 20, under guidance of Prof. Gustave Horstmann, the class effected an organization which is to be known as the "Class of '22," and to have for its object the promotion of good will among its members and the perpetuation of the progress of pharmacy in general. The following officers were elected: President, Ed. A. Strauss, A.B., Springhill College, Mobile, Ala.; vice president, Frank R. Hader, A.B., New York; secretary, Beatrice Kobald; treasurer, James B. Hance.

The main business of the class at present is to dispose of as many tickets as possible for the Senior Dance which is to be held at the Hotel McAlpin, Broadway and Fifth ave., New York, on January 5, 1921, and in this work the juniors will make an effort to outdo the seniors in every possible way.

UNIVERSITY OF ILLINOIS

The School of Pharmacy of the University of Illinois began its 62nd session with classes filling the school to its capacity. Students numbering 208 are in attendance,—72 seniors and 136 juniors. Among these are 11 young women. Through lack of accommodations a number of students had to be turned away.

Recent marriages: Ira Isador Eisenberg, '20 and Miss Ida Ruth Weinstein at Chicago, Oct. 17; Fayette O. Merrell, '20, and Miss Norma Clingenpool, a graduate of St. Mary's Hospital Training School for Nurses; Paul E. Johnson, '18, and Miss Libbey Dedic, '18, who have just returned from a visit to the groom's parents at Mt. Sterling, Ill.

Major Stone of the U. S. Public Health Service recently addressed the classes in the School of Pharmacy on the subject of social hygiene. The lecture was given under the auspices of the Y. M. C. A.

Francis L. Abbott, '82, engaged as an analytical and consulting chemist in Chicago for many years, and husband of the late Mary Frances Abbott, father of Francis C. Abbott, died in Chicago, Oct. 5.

Adolph Umenhofer, '95, prominent pharmacist of Chicago and former president of the Chicago R. D. A. and Chicago Drug Club, died Sept. 29 following a long illness. He was president of the Alumni Association and 1st vice president of the Illinois Ph.A. at the time of his death.

Gamma Chapter, Lambda Kappa Sigma Sorority, recently elected the following officers: President, Mrs. Neff K. Bakkers; vice president, Hattie A. Dyniewicz; secretary, Norma Claire Schulte; treasurer, Edna Mae Flook. The chapter held its first meeting at the school on Oct. 15.

Chi Chapter, Kappa Psi Fraternity, recently elected the following officers: Regent, L. N. Kunkel; vice regent, J. L. Petranek; chaplain, L. V. Fay; secretary-treasurer, P. E. Barton; historian, F. H. Pelck.

The senior class has elected these officers: President, G. S. Chapman; vice president, L. K Glynn; secretary, Norma Echulte; treasurer, L. F. Johnson; sergeants-at-arms, L. E. Martin and J. Stotlar.

UNIVERSITY OF IOWA

The senior and junior classes of the college of pharmacy, University of Iowa, recently elected the following officers: Senior Class—president, S. L. Bickal, Ft. Dodge; vice president, R. O. Sutter, Burlington; secretary-treasurer, Naomi Kenefick, Eagle Grove; class delegate, H. J. Kriebs, Elkport. Junior Class—President, E. K. Bailey, Lewiston, Ill.; vice president, S. M. Kessling, Ft. Madison; secretary-treasurer, B. G. Beck, Mechanicsville; class delegate, Clara Jane Osborne, Sioux City. F. R. Graham, '21, was chosen by the entire student body as member of the Student Council.

The Phi Delta Chi fraternity gave a dance at the Burkley Imperial Hotel on Oct. 22, Mr. and Mrs. B. H. Davis and Dean and Mrs. Teeters being the chaperons. Out-of-town guests were Helen McCaffery of Davenport and B. C. Rogers, '20 ,of West Liberty.

Russell Austin, '21, of Wilton, has set a new record for the University in rifle shooting at the range near Mid-River Park, making a score of 110 out of a possible 125. The highest record previously made was 108.

Florence I. Peterman, '17, '20, has gone to New Haven, Conn., where she has accepted a position as assistant in the physiological chemistry laboratory of Yale University.

Recent visitors at the college of pharmacy: P. A. Dahlen, '19, of Rock Island, Ill.; Clarence Wierks, '19, of Davenport; E. T. Bjornstadt, '16; Robert H. Boerner, '17 and wife, of Bellingham, Wash.

Milo A. Chehak, '18, Ph.C. '19, and Miss Lenore Kathryn, daughter of Mr. and Mrs. John M. Skvor, were married on Oct. 27, and will make their home at Burlington. Mr. Chehak was graduated in 1918 and received his Ph.C. degree in 1919, shortly thereafter becoming a member of the firm of Grimm and Chehak at Cedar Rapids. A few months ago the firm opened a branch at Burlington with Mr. Chehak in charge.

Dr. John Farrell, ex '04, who has been visiting friends and relatives in Iowa has returned to Honolulu where he is engaged in the practice of medicine.

The senior girls entertained the junior girls at a get-acquainted party on the evening of October 26.

ST. LOUIS COLLEGE OF PHARMACY

The St. Louis College of Pharmacy was very much in evidence at the recent annual meeting of the N. A. R. D. held in St. Louis, its booth at the Planters Hotel being visited by a large number of druggists during the convention week. The college display consisted mostly of pharmaceutical preparations and chemicals which had been made by students of classes from 1886 down to the present day. Photographs were also shown of many of the officers and teachers of the college since its incorporation in 1864. More than three hundred graduates, some of them representing classes as far back as 1868, visited the booth, and these with their wives were given a banquet by the college and the Alumni Association. Each graduate was given a badge on registering at the college booth.

A notable collection of wild plants in charge of Dean H. M. Whelpley, assisted by L. P. Jensen, a local botanist, was on exhibition during convention week, and provided a great attraction to the older graduates as well as the newly enrolled students. More than a hundred different kinds of wild plants were displayed, many of them being arranged in boquets and used for decorative purposes and to stimulate interest in the study of materia medica and botany. The greater number of the plants were gathered on the General U. S. Grant farm in St. Louis county, although some were contributed by local druggists. Each plant was labeled with its botanical and common name.

The opening session on October 4 marked the beginning of the new requirements for matriculation, all students entering upon the work now having to present evidence of having completed a four years' attendance in an accredited high school, or a certificate obtained by passing an examination equivalent to such high school course. The entrance requirement applies to all students who are candidates for degrees.

UNIVERSITY OF MICHIGAN

"Mike" Condon, known to the student body of the College of Pharmacy for many years as one of the chief characters in the Chemistry building, honored and loved by all who knew him, has passed on, leaving to live after him a memory of service and faithfulness that shall ever be cherished in the minds of thousands who knew him. He was born in New York City in 1843, and lived in Ann Arbor more than 70 years. He began working in 1858 as errand boy for Dr. Tappan, first president of the University. He helped to erect the old chemistry building in 1868, and was first dispensing assistant in the laboratories from 1875 until he was pensioned in 1915. From that time on he was given keys to the building, but his visits became less and less frequent and for several months before his death he was confined to his bed. He is survived only by his sister.

B. L. Murray, of Merck & Co., New York City, was in Ann Arbor a few days ago to consult with Secretary Glover regarding the possibility of securing three or four pharmaceutical chemists to fill vacancies in the Merck laboratories. The demand for graduates of the college of pharmacy to fill positions of the above character, far exceeds the supply.

The enrollment for the first semester of the present college year shows a substantial increase over the enrollment of a year ago, with the prospect of a number of additions to the list for the second semester.

Extensive plans have been completed for enlarging and increasing the efficiency of the Health Service Pharmacy of the University. New quarters have been secured on the ground floor of the Natural Science Building where practically all new equipment is being installed. The number of hours per day for filling prescriptions has been increased in order that better service may be rendered to the student body than has been customary at any time since the Health Service was established.

The congestion in the Chemistry Building due to increased enrollment has led to the formulating of plans for a new building to care for a number of the courses. When the new building is completed the College of Pharmacy will receive additional space for class room and laboratory work.

Dr. A. B. Stevens, formerly dean of the college, spent about three weeks in Ann Arbor, recently, visiting friends. He left Nov. 4 for his home in Escondido, Cal.

The meetings of the Prescott Club this year have been planned to provide the usual interesting and instructive programs. At the first meeting Dean Krause and the other members of the faculty gave talks pertaining to the history of the club and touching upon the value of the club to the students. President Traut urged every student to join and his appeal was met with a hearty response. The second meeting was addressed by Hugh Craig of the Nyal Company on the subject of drug store advertising. His address was replete with valuable information on this important phase of drug store promotion and publicity.

Dr. W. S. Hubbard, drug inspector at the port of New York, visited friends on the campus recently.

MEDICAL COLLEGE OF VIRGINIA

Like many other schools of pharmacy which have reported, the Medical College of Virginia had more applicants for matriculation in September than could possibly be accommodated, the total number accepted being 114.

The Junior Class has organized with the following officers: H. C. Brownley, president; H. P. Walker, vice president; E. P. T. Smith, sec.-treas.; L. M. Woodard, member honor council. Officers of the Senior Class: M. P. Kelly, president; A. B. Cheatham, vice president; J. G. Thomas, sec.-treas.; Miss Margaret Savage, member honor council.

W. G. Crockett, recently elected professor of pharmacy, began his teaching in September and is already working like a veteran. At the October meeting of the Virginia Branch of the A.Ph.A. he was elected chairman for the ensuing year.

A. L. I. Winnie, secretary of the Virginia board of pharmacy, was a visitor at the recent meeting of the North Carolina State Board at Raleigh, N. C. Mr. Winnie, who is an alumnus of the College, takes an active interest in all that pertains to pharmacy in the Old Dominion and her neighbors.

The College Y.M.C.A. has purchased and thoroughly renovated the building formerly occupied by the "The Woman's College," which is now being used as a residence by a large number of the students of pharmacy who find it a most comfortable and home-like place.

UNIVERSITY OF CALIFORNIA

The enrollment of students in the college of pharmacy, University of California, now numbers 94 men and 24 women, with several additional in the post-graduate class, the total enrollment representing a slight gain over that reported for last year.

The senior pharmacy class recently elected the following officers: President, J. C. Greaver; vice president, C. W. Phelps; treasurer, H. P. Biane; secretary, Miss L. Moore; sergeant-at-arms, W. Page.

The several college fraternities and organizations are already showing signs of student activity. Zeta chapter of the Phi Delta Chi and the Kappa Psi have held initiatory ceremonials, while Zeta chapter of the Lambda Kappa Sigma Sorority has conferred honorary memberships upon Mrs. H. M. Simmons and Miss Alice Green, daughter of Dean Franklin T. Green. Mrs. Simmons will act as chaperone at the festivities of the Sorority.

UNIVERSITY OF SOUTHERN CALIFORNIA

The school of pharmacy, University of Southern California, opened on October 6 with an enrollment of 110 students, a number which it is believed will be considerably increased in the near future.

A new pharmacy fraternity has been organized by the school of pharmacy students. It is known as the "R Club," and already has a membership of twenty-five. Affiliation with an eastern organization is being considered. The officers are: President, Louis Goldberg; secretary, Earle Kynette; financial secretary, Simon Galenor.

The local chapter of the Phi Delta Chi fraternity recently gave a smoker to the boys of the school.

Boards of Pharmacy

ILLINOIS

The Professional Committee for Pharmacy in Illinois held an examination on Sept. 7-10 in Chicago, at which the following applicants passed successful examinations;

Registered pharmacists: Joseph Allegretti, A. W. Balzer, Quincy; Henry Barwig, S. Bergman, Karl Eder, Arthur C. Elden, Urbana; H. G. Emeis, Davenport, Ia.; Isidor Fischer, Jos. E. Hamilton, East St. Louis; W. E. Harris, Carrier Mills; R. J. Horlock, Morris Indech, H. V. Jones, Cowden; Louis Lavine, N. E. LeClair, Edward R. Lewis, Beardstown; W. E. Nelson, Galesburg; George A. Schnadt; Wm. L. Sides; M. B. Wallin; L. W. Waxman, W. S. Weiss, C. H. Wood, Peoria.

Local registered pharmacists: Lee E. Bolton, Wyanet; Walter B. Morgan, Brookport.

Assistant pharmacists: Anton Beleskis, Mandel Brin, Chicago; George S. Bryant, Springfield; John Cook, Chicago; Frank J. Dulla, Oak Park; Louis D. Eisele, Walter C. Erikson, S. G. Gordon, H. L. Gwint, Chicago; Thomas V. Hall, Granite City; L. N. Helbraun; James B. Humma, Metropolis; Henry C. Kelch, Decatur; Wm. J. Kennedy, Belvidere; Thomas R. Koza, A. J. Kritenbrink, Chicago; H. J. Littlefield, Peoria; R. C. Mapes, Chas. E. McWhorter, Frank J. Nepil, C. W. Plummer, G. C. Roche, R. J. Shinn, J. N. Shure, Horace Silverman, Chicago; Edwin J. Vogelsang, Springfield; Albert P. Wiertelak, Chicago.

The next examination for registered pharmacists will be held in Chicago on Tuesday, Nov. 30; for assistant pharmacists, on Thursday, Dec. 2.

KENTUCKY

At the meeting of the Kentucky Board of Pharmacy held at Dawson Springs on Oct. 11 and 12, eleven applicants for registration were examined, the following being successful:

Registered pharmacists: John O. Boynton and Arthur B. Hillyard, both of Princeton.

Assistants: Hugh B. Champion, Hampton; W. Godfrey Childress, Princeton; Edward L. Johnston, Mayfield.

William Votteler, Louisville, was appointed by the Governor to succeed J. C. Gilbert, deceased, and George E. Porter, of Berea, was appointed to succeed W. E. Danhauer, whose term of office as a member of the board expired at this time.

The following officers of the board were elected for the ensuing year: President, William Votteler; secretary, J. W. Gayle; treasurer, Addison Dimmitt; attorney, Edward Bloomfield; chairman of the executive committee, Linwood A. Brown. Covington was selected as the place of the January meeting.

MARYLAND

The Maryland Board of Pharmacy held an examination at Baltimore on Oct. 27 and 28 at which the following applicants for registration as pharmacists were successful: Jose R. Bernhardini, Stanley L. Campbell, Ottario A. Scelfo, Roy S. Schlosser, Philip Sowbell, Albert R. Eselhorst, Milton E. Mohr, George L. Newman, and Benton S. Phillips.

MASSACHUSETTS

John M. Kelleher, of New Bedford, Mass., has been named by Governor Calvin Coolidge to succeed John F. Hayes, of Fitchburg, as a member of the Massachusetts Board of Pharmacy. Mr. Kelleher was endorsed by many members of the State Pharmaceutical Association in 1916. He is a native of New Bedford, where for a number of years he was engaged in the drug business with James D. W. Atkins, Charles H. Church and Henry T. Corson, later opening the two Kelleher pharmacies in the same city which he still conducts.

NORTH CAROLINA

The North Carolina Board of Pharmacy examined a class of eight white and three colored applicants at its meeting held at Raleigh on Nov. 16 and 17, the following being successful: H. C. Seawell, St. Pauls; O. G. Chalker, Atlanta, Ga.; Y. D. Garrett, Jr. (col.); Tarboro. The next meeting of the board will be held at Raleigh in June, 1921, the exact date to be fixed.

OHIO

As a result of the examination held at Columbus on Oct. 12 and 13, the Ohio Board of Pharmacy has granted certificates to the following successful applicants:

Pharmacists—Stanley Lindeman, Morris Travis, Cincinnati; Richard Herzer, South Norwood; Jean R. Savage, Mrs. Frank M. Hladky, Adolph Berland, Max H. Vann, Cleveland; Rose M. Shaull, Arthur M. Birch, Columbus; Robert H. Wall, Louis Braun, Toledo; Clair V. Dobson, James D. Barnes, Youngstown; Harry Gordon, Akron; Daniel M. Jenkins, New Lexington; Charles D. Farrow, Ashtabula; Ray H. Bookwalter, Huntsville; Charles H. Donohoo, Georgetown.

Assistant pharmacists—William E. Finkelman, Cleveland, Edward H. Wise, Louis Achille DiBartolo, Cleveland; Raymond J. Albert, Columbus. The following applicants for pharmacist certificates obtained grades high enough to entitle them to assistant certificates: Jacob Tucker, Herman J. Schuman, Gilbert H. Satterwhite, Cleveland, Witold M. Zytkus, Toledo.

Pharmacist certificates were granted to Frank E. Irwin, of Toronto, Ohio, on his registration in West Virginia, and William C. Harder, of Indianapolis, Ind., on his registration in Indiana. Application for renewal of the pharmacist certificate of John Hornung, of Dresden, Ohio, was refused by the board. The next examination will be held in Columbus beginning January 11, 1921.

PENNSYLVANIA

The Pennsylvania Board of Pharmacy announced that at the examinations held at Williamsport, Sept. 3 and 4, fourteen of nineteen applications for pharmacists licenses were successful, and of the twenty-six applicants who took the examination for assistant pharmacists, twelve were successful. The successful candidates were the following;

Pharmacists: Lacey E. Johnson, Braddock; John A. Heagy, Black Lick; John E. Bergen, Carbondale; Harry A. Sloan, Charleroi; William L. Pawling, Downingtown; Milton Hartstein, Farrell; Russell Trumbower, Lansdale; Miles Rupert, McKeesport; Gelia V. Harris, Philadelphia; Benjamin Middleman, Pittsburgh; William H. Rawson, Punxsutawney; Arthur J. Zuver, St. Mary's; James W. Lutton, Sewickley, and Abraham Steinhart, Wilkes-Barre.

Assistant Pharmacists; Paul O. Ritter, Allentown; Joseph F. Maguire, Altoona; Clarence M. Kennelty, Greensburg; Victor P. Puhlick, Kingston; Alexander S. Handmacher, Harry M. Landis and George D. Taxey, Pittsburgh; Frank Glauser and Ray H. Webb, Philadelphia; D. Wellington Donmoyer, Shamokin; Charles E. Motgan, Wilkes-Barre and Max O. Nicely, Williamsport.

VIRGINIA

Thirty-nine applicants for registration were examined by the Virginia Board of Pharmacy at the October meeting of the board held in Richmond. The following were granted certificates:

Registered pharmacists—A. N. H. Mapp, Jr., Belle Haven; S. C. Creasy, Newport News; W. O. House, Norfolk; J. E. Fitzpatrick, Vinton; Mason E. Lee, Portsmouth; J. H. Holtzman, Winchester; W. R. Bohlken, Portsmouth; H. W. Brown, Buena Vista; George W. Johnson, Richmond; G. A. Hodges, Portsmouth; Louis A. Sale, Norfolk.

Registered assistant pharmacists—A. B. Cheatham, Richmond; M. W. Milgram, Gary, Ind.; W. B. Shumate, Richmond; B. W. Johnson, Roanoke.

The following received certificates by reciprocity—William Oscar Smith, Norfolk, from North Carolina; H. P. Kitchen, Portsmouth, from Georgia; William G. Nelson, Wilmington, N. C., from North Carolina; John G. Roberson, Norfolk, from North Carolina; William S. Woodward, Newport News, from North Carolina; G. M. Talley, Richmond, from Mississippi; C. N. Smith, Portsmouth, from North Carolina; James C. Smith, Johnson City, Tenn., from Tennessee; Andrew S. Pope, Berkley, from North Carolina.

The next examinations by the board will be held in Richmond in April, 1921.

WISCONSIN

The Wisconsin Board of Pharmacy granted certificates as registered pharmacists to eighteen applicants who successfully passed the examination of the board at the meeting held in Madison on October 23, and certificates to thirteen applicants as registered assistant pharmacists, as follows:

Registered pharmacists—Frederick W. Irish, Madison; A. W. Dietz, Edmund A. Dziennik, Raymond Karasinski, Victor Petrusek, Ralph L. Van de Kamp, Walter C. Raasch, Arthur C. Zerler, Milwaukee; Carleton E. Hilfert, Appleton; Roy J. Knutson, Park Falls; Clarence Nelson, Robert C. Zander, Marinette; J. Minor Bergen, Iola; William A. Worley, Racine; Herbert P. Wall, Oshkosh; Joseph E. Lunda, Mt. Horeb; James Shapiro, Superior; A. Joseph Kramer, Menominee, Mich.

Registered assistant pharmacists—Felix C. Lassa, Theodore C. Kuehnl, Oscar F. Schwanke, Edmund F. Pawlak, Milo A. Phillips, Herbert J. L. Hinz, Anton F. Jozwiak, Milwaukee; George J. Knoller, Bangor; Fred M. Cowee, La Farge; Frank H. Kennedy, Iron Ridge; Sydney M. Oleson, New Richmond; Leo V. Butts, Madison; Arthur W. Loeffler, Escanaba, Mich.

The next examination of applicants will be held in Madison in January, 1921.

Obituary

Professor Armand Jorissen, a member of the faculty of the College of Pharmacy at the University of Liege, whose death occurred recently at the age of 67, was a prominent figure in European pharmaceutical circles. Born at Liege in 1853, he was educated at Strasburg and Liege, and in 1877, was made assistant in pharmacy at his home University. In 1891 he was given charge of the course, receiving the title of professor extraordinary in 1897, and attaining the full professorship in 1902. His activity in research extended over pharmacy, toxicology, chemistry and mineralogy, and he was well known as a contributor to Belgian and French pharmaceutical journals. He was an officer of the Order of Leopold and an honorary member of the pharmaceutical societies of Antwerp, Brussels and Paris.

RUSSIAN CONTROL OF SANTONIN

The production of santonin is controlled by the shareholders of the Santonin Co. in Russia, which is in turn controlled by the heirs of I. I. Ivanov in Tashkent. Prior to the war the Santonin Co. sent its entire production to Germany to be refined and received from that country about 15 poods (1 pood=36.1128 pounds) of the refined product each year, which quantity was all that was needed for Russian consumption. Thus Russia had the monopoly of the production and Germany the distribution. Since the war the exports have gone to Great Britain.

Santonin is a hard crystalline substance extracted from the unmatured flower of the plant Artemisia cinea, which is grown exclusively in the Kirghiz Steppes of the northwestern part of Turkestan and the steppe region of Siberia.

According to Russian official statistics, the amount of santonin exported from Russia to Germany and Great Britain during the years 1910-16 was as follows (ruble at par of exchange=$0.5146):

	Exports to—			
Years.	Germany.		Great Britain.	
	Poods	Rubles	Poods	Rubles
1910	963	23,256	...	......
1911	...	......	...	......
1912	141	7,800	...	......
1913	303	117,000	...	......
1914	200	93,000	...	......
1915	...	......	300	701,000
1916	...	......	200	382,000

The foregoing figures show that the official valuation of santonin per pood increased from 55 rubles in 1912 to 390 in 1913. In 1914 the valuation was 465 rubles; in 1915, 2,337; and in 1916, 1,910 rubles.

SEASONAL VARIATIONS IN OIL LEMON

In a recent discussion of the varying merits of the oil pressed from lemons at different times during the season, the Perfumery and Essential Oil Record of London presents some rather interesting facts regarding variations of the oils, based on a brochure by A. Boake of Roberts & Co., Ltd. In summarizing, the report stated:

"Lemon oil, from whatever region it is obtained, always shows a progressive alteration in character as the season advances. The oils produced in the first weeks, December and January, are the highest in citral and rotatory power, and the lowest in specific gravity and in the percentage of non-volatile residue; and, as already mentioned, the yield of oil is also at its greatest at this period. As the fruits ripen the amount of citral in the essence made from them diminishes, and the resinous matter increases, so that, while at the beginning of the season the fixed residue is about two per cent, in May it frequently reaches or exceeds three. It is also definitely ascertained that a slight change takes place in lemon oil when stored, even under the best conditions, involving a slow diminution in the percentage of citral. This does not usually amount to more than two or three-tenths per cent in several months, and it is probably quite insignificant when the essence has been perfectly filtered and is kept in well filled, sealed coppers. Careless storage may of course, give rise to rapid deterioration."

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Educational Department

Devoted to Information, Criticisms and Suggestions on Pharmaceutical Topics of Special Interest to Era Course and Other Students.

Conducted by THE DIRECTOR OF THE ERA COURSE IN PHARMACY.

ATOMIC WEIGHTS

The Law of Definite Proportions, one of the fundamental laws of chemistry, states that when substances interact chemically they do so in definite proportions by weight. Let us take the simplest application of this: When elements unite they do so in definite proportion by weight. A chemical reaction involves interaction between the smallest particles of matter which can enter into reaction, the atoms. Thus when sodium and chlorine are brought in contact, the sodium atoms combine with the chlorine atoms to give sodium chloride. One atom of sodium and one atom of chlorine give one molecule of sodium chloride or common salt. There must be an equal number of sodium and of chlorine atoms. All atoms of the same kind are identical in size and weight according to the atomic theory, which is the foundation of chemistry. Now as there are an equal number of atoms of each involved, the amount of sodium which will react with a given amount of chlorine must depend on the relative weights of their atoms. It is found by experiment that one gram of sodium will combine with 1.537 grams of chlorine so we conclude that the chlorine atom is 1.537 times as heavy as the sodium atom.

In some similar way the relative weights of the atoms of all the other elements may be found. But to express these relationships easily there must be some standard of comparison. For this purpose hydrogen was chosen, being the lightest element, and was assigned the atomic weight of one. Now take the case mentioned. An atom of chlorine will combine with one of hydrogen, giving hydrochloric acid. The relative weights are 35.45 to 1 showing that the chlorine atom is 35.45 times as heavy as the hydrogen atom. So we give chlorine the atomic weight of 35.45. But we find that a chlorine atom was 1.537 times as heavy as a sodium atom, so if we divide 35.45 by 1.537 we get the atomic weight of sodium, which is 23.05. Other atomic weights are obtained in similar ways and so we arrive at the relative weights of atoms even though they are too small to put on the scales.

QUESTIONS AND ANSWERS

This department contains each month twenty-five questions which are reprinted with their answers in the succeeding issue. How many of this month's can you answer?

QUESTIONS FOR DECEMBER

1. What official fruit resembles anise and how may they be distinguished?

2. What are four drugs indigenous to the United States?

3. What section or district of the United States produces the following drugs? (a) Sabal; (b) grindelia; (c) peppermint; (d) yellow jasmine.

4. What four official drugs other than those named in the answer to the preceding questions are indigenous to the United States?

5. What is an analgesic and what are four pharmacopoeial so-called "synthetic" substances covered by your definition?

6. What is star anise, from what source is it obtained, and for what is it used?

7. What variety of anise is official and which is the source of oil of anise U. S. P.?

8. What impurities should be looked for in purchasing oil of anise?

9. What is the botanical name of the plant producing saffron, where is it grown and what part of the plant is used in medicine?

10. Is the following prescription incompatible, and if so why?

Strontium bromide	2 drams
Fowler's solution	20 drops
Tincture of belladonna	2 fluidrams
Elixir of glycerophosphates	1 fluidounce
Elixir of gentian, to make	4 fluidounces

11. What kind of a fruit is conium and why is the conium plant sometimes called "spotted hemlock"?

12. If you wished to make up a 50 per cent alcohol and mixed 20 gals. of U. S. P. alcohol and 20 gals. of water what would be the resulting volume?

13. What is the strength of a normal solution of sulphuric acid?

14. How many confections are official?

15. What is benzoinated lard?

16. What is the difference between lanolin and other animal fats?

17. How much lactose or milk sugar is present in normal milk?

18. What is a mull?

19. What is the Centigrade equivalent of 76° F.?

20. How does a fluidounce differ from the Troy and avoirdupois ounces?

21. What is the difference between a wine gallon and an Imperial gallon?

22. Name the alkaloids which are found in hydrastis canadensis.

23. What is gutta percha?

24. How many varieties of ginger are official and what are they?

25. What drug similar to ginger is official in the N.F.?

ANSWERS TO NOVEMBER QUESTIONS

1. How is the strength of peroxide of hydrogen solution stated and determined?

It is stated in terms of volume, as 20 volume or 40 volume. This refers to the volume of oxygen which is set free when a certain volume of the solution is treated with potassium permanganate.

2. What is "Lambkin's Cream"?

It is composed of 5 grams calomel and 20 grams of "creocampf" made up to 100 parts with carbolized vaseline. The "creocampf' is composed of equal parts of creosote and camphoric acid and is used to minimize the pain and irritation of the injection.

3. What is hydrargol?

Mercuric succinimid.

4. What is hydrargyrol and what are its properties?

It is the mercuric salt of p-phenolsulfonicacid. It does not precipitate protein nor attack metallic instruments. The double salt with ammonium tartrate is more stable and is used under the name asterol. This has about one-half the bactericidal action of corrosive sublimate, it is claimed, but penetrates further and does not cauterize wound surfaces nor injure metallic instruments.

5. What is the chief therapeutic use of iron?

It is used as a blood tonic in cases of anaemia and chlorosis.

6. What is meant when it is said that two substances are isomorphous?

Two substances are isomorphous when they have the same crystalline form and when the solution which contains both will deposit mixed crystals instead of separate crystals of the two substances. Usually isomorphous substances have a very similar chemical composition.

7. What is the active substance of oil of chenopodium? For what disease is the oil said to be a specific?

The active substance is ascaridole, $C_{10}H_{16}O_2$, an unstable compound, probably a peroxide. It is used in the treatment of hookworm.

8. What are the crystals that form in a bottle of oil of bitter almonds, after long standing?

Benzaldehyde or oil of bitter almonds oxidizes readily to benzoic acid. The crystals are benzoic acid crystals.

9. What is oil of mirbane?

It is nitro benzene. It is sometimes used as a substitute for oil of bitter almonds because of its similarity in odor and flavor and its cheapness. Its use in foods is prohibited.

10. Why does the Pharmacopoeia insist that gm. shall be written gramme and not gram?

Because if carelessly written gram might be taken for grain. Such an error might easily be serious.

11. Would you figure the freight and cartage on a lot of goods as part of the cost or part of the overhead expenses?

Whatever allowance is made for freight and cartage should be added to the invoice price to determine the cost. You then have the cost of the goods in the store which is their real cost to you.

12. If an article is sold at a list price of $4.50 less discounts of 20, 10 and 5, what is the net cost to you provided the discounts are taken?

The net price is 68.4 per cent of the list price or $3.08, and not 65 per cent. The first discount of 20 per cent makes the price $3.60 the next of 10 per cent takes off 36 cents, making the price $3.24; the final discount of 5 per cent on this brings the price to $3.08. This way of granting scale discounts has practically disappeared in most lines and has been supplemented by a flat discount.

13. Should net profit be figured on the selling price or on the cost of an article?

The only method recognized in sound business accounting is to base the profit on the selling price. Thus if a ten per cent net profit is desired, the cost price plus the overhead should be 90 per cent of the selling price.

14. Suppose an article cost $1.00, the overhead or cost of doing business is figured at 30 per cent and a net profit of 15 per cent is desired. What price should be marked on the article?

Let the selling price be taken as 100 per cent. The mark up or overhead charge plus profit is 45 per cent. The cost is then 55 per cent of the selling price. But the cost is $1.00 and $1.00 divided by 55 gives 1 per cent of the selling price or 1.82 cents. The selling price is one hundred times this or $1.82. The net profit is 15 per cent of this or 27.3 cents.

15. What is meant by "turn-over"?

This represents the number of times the invested capital is used in a year. It is obtained by dividing the total sales for the year by the average amount of capital invested in stock. To get a correct figure the inventory figures and total sales must be calculated down to the same basis, merchandise cost or selling values.

16. What National Formulary processes employ anise as an ingredient?

Laxative species, pectoral species, and sweet tincture of rhubarb.

17. What proportion of resin of podophyllum U. S. P. is soluble in ether?

Not less than 75 per cent should be soluble in ether.

18. What is elaterium and what tests would you employ to determine the absence of starch and chalk as adulterants?

Elaterium is the substance deposited from the juice of the fruit of Ecballium elaterium or squirting cucumber. Good elaterium should not give a blue color on the addition of iodine to a cold decoction of the drug, showing absence of starch. Chalk is detected by the effervescence on the addition of hydrochloric acid.

19. What official substances are derived from the following plants: Dryopteris marginalis, Garcinia Hanburii, Pistacia Lentiscus, Artemisia pauciflora?

Aspidium, gamboge, mastic, santonica.

20. What is cardamom? Name some of the commercial varieties.

The dried nearly ripe fruit of Elettaria repens. The commercial varieties are Mysore, Malabar, Mangolore and Ceylon.

21. (a) What part of cardamom fruit contains the active and valuable constituent? (b) what kind of dehiscence has the cardamom capsule?

(a) The seeds; (b) septifragal.

22. What is the drug known as "grains of Paradise"?

The seeds of Amonum Grana Paradisi and Amonum Melegueta.

23. What are the constituents, properties and uses of grains of Paradise?

They contain a volatile oil, paradol $C_9H_{14}O_2$ (viscid and pungent), tannin, fat, resin, etc., and have a slightly spicy odor and pungent pepperlike taste. They are employed for their stimulant properties and according to Maisch, they are used "mainly in cattle powder and for imparting artificial strength to spirits."

24. What part of the plant Arnica Montana is official, and what are the chief constituents of the same?

The dried flower-heads; the chief constituents are the bitter, yellow, amorphous body arnicin, a volatile oil, and the colorless, crystalline phytosterol.

25. What adulterants would you look for in a sample of Arnica Montana?

Various flowers of the Compositae, such as calendula, anthemis, inula, senecio, etc.

Buy Tuberculosis Use Christmas Seals

Women in Pharmacy

CONDUCTED BY EMMA GARY WALLACE

AFTERMATH OF THE W. O. N. A. R. D.

At the recent convention of the Woman's Organization of the N. A. R. D., held in St. Louis; the following resolutions were adopted;

That all former Resolutions still pertaining to the interests of the W. O. N. A. R. D. be reindorsed.

That the extreme prevailing fashion of women's dress be opposed, and that most specially the organization urge the correct form of apparel for children and growing girls; that the uniform dress now so much talked about for school children, shall not be advocated, as it takes away the individuality of the wearer; but that rather common sense, modest dressing and simple styles to suit the means and tastes of mothers, be advised. This will instill modesty and economy and both are virtues.

That the organization find ways and means of helping the Editor in her problems of finance.

That the annual scholarship of $100.00 be awarded if an eligible applicant is secured.

That the national dues remain at one dollar per year.

That Life Memberships of $25.00 be made available to all who wish to take them out.

The retiring president, Mrs. Alice C. Seiberz, who had served the organization for the two past years, made an address in which she made reference to the vital part assigned to women to play in solving the nation's problems during the period of reconstruction after the stress of war, and said that there was important work for every woman to perform within the social, political, educational or domestic sphere. Each should assume the duties for which she was best fitted, and unite the combined results of individual and collective efforts of American womanhood, the nation achieving a standard of good government and moral living thereby which would be equalled by none.

She also made a fitting allusion to the seven members the organization had lost by death during the past year. These were Mrs. Storer, past president, and Mrs. Adolf Kressling of Chicago Chapter; Mrs. Charles Harding and Mrs. Caroline Meyers of Cincinnati Chapter; Mrs. A. L. Suter, of Louisville Chapter; Mrs. Buzzell, of Detroit Chapter, and Mrs. W. B. Cheatham, of Yonkers, N. Y. Mrs. Seiberz also extended sympathy to various members of the organization who had lost dear ones during the year, and thanked all of the officers, chairmen and members of the various committees for the faithful manner in which they had performed their duties, and the assistance they had given to her during her term of office. In relinquishing the presidential office she expressed her best wishes, and asked for co-operation and loyalty to her successor.

Mrs S. A. Eckstein, the incoming president, spoke feelingly on taking the office, and said that she hoped she would not disappoint the membership, and to succeed she would need their confidence, kind thoughts and encouragement.

Mrs. Leslie O. Wallace, corresponding-recording secretary, presented a report which was read in her absence. Among other things the report suggested that the organization lay out a platform of work for the next twelve months, the following "planks" being emphasized;

1st, the proper informing of the druggist women folk on the pharmaceutical legislative conditions and how we can help with our votes. 2nd, the undertaking of some definite work for women and children. 3rd, a thorough canvass of the entire country and a complete listing of women pharmacists.

The report of the Financial Secretary, Mrs. Nellie Florence Lee showed the organization in good financial condition, in spite of the rising cost of everything. The balance on hand at the beginning of the financial year, Sept. 1st, 1919, was $1,546.43. During the year, the receipts from Chapters have been $674.00; from State Members, $39.00,—making a total receipt from dues of $713.00. From the sale of organization emblem pins, $94.00 had been received; total receipts from Scholarship Fund, $50.00. Interest on deposit, $36.44,—making the income of the year $833.44. Total, $2,429.87.

The total disbursements of the year have been $810.28, leaving a total balance of $1,619.59. Out of this sum, $1,218 is on interest, and there is a balance in the general fund of $401.59. This latter sum it will be necessary to draw upon heavily for the payment of this year's Convention expenses, but of course, said expense will be figured in the disbursements of 1920-1921.

The expense of publishing the *W. O. Bulletin*, the organization's monthly journal which is sent to each member, for the past four years was shown in the following comparative table submitted by Mrs. Lee; Yearly cost per capita, 1917, 67c; 1918, 75c; 1919, 93c; 1920, $1.28.

AROUND THE CIRCUIT

Sympathy is extended to Mrs George L. Secord, wife of Dr. Secord, of the Central State School of Pharmacy, Chicago, who was the victim of an unfortunate railroad accident which occurred at Erie, Pa., recently. Mrs. Secord suffered injuries and shock. It is hoped that she will soon recover.

The Ladies' Auxiliary of the Southern California Retail Drug Association, gave a delightful Hallowe'en party and dance Oct. 29th, at the Women's Club House in Los Angeles. It is to be hoped that these good times will continue throughout the winter, and that the Ladies' Auxiliary will join hands with the Women's Organization of the N. A. R. D. for the benefit of both.

Miss Helen B. Katz has sold her drug store located at 1071 Roosevelt Road, Chicago, to I. A. Simon. The business transaction was handled by William Kizan. Miss Katz is now planning to open a modern and beautiful pharmacy on Sheridan Road, same city, near the Evanston border line.

Mr. and Mrs. J. H. Riemenschneider and son, Robert, are safely back from their western tour which followed the St. Louis Convention. All are refreshed by the change and enthusiastic over the beauties of the West.

There is a very large entering class at the Massachusetts College of Pharmacy, among which is a goodly representation of girl students. As reported in last month's Era, there are now enrolled 321 students in all, including 147 new students and 49 young women. These 49 girls come largely from New England, although some other states are represented, and some foreign countries as well. Plans to make the girls comfortable and happy were worked out during the summer. The Girls' Study is now a restful and pleasing room. The floor has been recarpeted, wicker chairs and cretonne hangings and cushions added, and the place made generally home-like and attractive.

The Woman's Organization of the B. A. R. D. held a board meeting in the Alumni Room of the College of Pharmacy, Thursday afternoon, Oct. 27th. Activities for the coming year were planned and a thoroughly worthwhile program laid out.

Sincere sympathy is extended to Mr. and Mrs. George W. McDuff of New Orleans, whom many will remember as among the most cordial of the hosts and hostesses of the New Orleans Convention. The married daughter of Mr. and Mrs. McDuff, Mrs. Norris McDuff Richardson, is supposed to have been on the ill-fated ship, "Speedwell." The family has clung to the hope that some passing craft not equipped with a wireless, and perhaps going to some distant port, might have rescued their dear one, but even this hope has grown faint. Mrs. Richardson leaves one little son who was with his grandparents, Mr. and Mrs. McDuff, at the time of the accident.

Sympathy is extended to P. H. Jensen, the well-known druggist of New Orleans, and family. Wife and mother was taken away on Sept. 20th, leaving four children to mourn her loss and to miss her loving care.

Miss Anna E. Otis died at her home, 1711 Madison Road, Cincinnati, funeral services being held on Oct. 14 Miss Otis was a sister of the late Dr. John C. Otis, so well and prominently known in the Queen City, and sister-in-law of Mrs. John C. Otis, treasurer of the W. O. N. A. R. D.

Congratulations are extended to Mr. and Mrs. C. Herbert Packard of East Boston, Mass. on their recent marriage. Mrs. Packard was Miss Anabel Wier of the same city. Mr. and Mrs. Packard will make their home at Winthrop, and should all of Mr. Packard's drug friends attempt to call upon him, the visitors would come in swarms from all over the United States, for he is one of the most widely known figures in retail pharmacy in the country.

Notice has already been given of the European trip of Mr. and Mrs. Kazimer Sidlauskas of South Boston. The much traveled couple have returned and their welcome home took the form of the presentation of a fine clock by their friends. Mr. and Mrs. Sidlauskas reported a very enjoyable trip.

It is interesting to know that Mrs. Ad. Umenhofer is to continue the retail drug business in which her late husband, Mr. Umenhofer, had been so successful. The business is located at 2405 N. Halstead St., Chicago.

Mrs. Nellie Florence Lee, Financial Secretary of the W. O. N. A. R. D., was the guest of honor at a dinner party given especially for her by Mrs. Caroline Wetterstroem, at the latter's home on Colerain Ave., Cincinnati, where a number of the Cincinnati Chapter met with the Financial Secretary and enjoyed the occasion.

Mrs. Clara E. Otis of Ruth Avenue, Walnut Hills, gave a reception in Mrs. Lee's honor also during her stay in the Queen City.

Mrs. Nellie Florence Lee was given a banquet by the Cleveland Chapter of the W. O. N. A. R. D. at the Hollenden Hotel, the members of the Chapter turning out in large numbers and having a royal good time.

The Ladies' Auxiliary of the Alameda County (Cal.) Pharmaceutical Association, held a special meeting at Key Route Inn, Oakland, where a lunch was enjoyed and special plans made for suitable activities for the winter.

The Lambda Kappa Sigma Sorority of the Illinois School of Pharmacy, has just elected the following officers to serve for the ensuing year: President, Mrs. Neff K. Bakkers; vice-president, Hattie Dyniewic; secretary, Norma Claire Schultz; treasurer, Edna Flook.

The first meeting of the Woman's Organization of the W. O. N. A. R. D., Chicago Chapter, No. 2, was held Oct. 12th. Mrs. Nellie Florence Lee, financial secretary of the W. O., was the guest of the day. The program was given by Mr. and Mrs. Frank Dudley of the local Art Institute. Mr. Dudley demonstrated rapid fire landscape painting, and Mrs. Dudley sang. A report of the St. Louis Convention was read by Mrs. Topf, and Mrs. Lee made an address. A social hour with refreshments and dancing followed.

PATENT MEDICINES IN CZECHOSLOVAKIA

Proprietary and patent medicines can be sold in Czechoslovakia only by special permit of the Ministry of Health, issued only to druggists, after the application therefor has been approved by county and State authorities, and may be sold only by druggists. Whether a patent medicine will be allowed to be sold to the public without a doctor's prescription depends upon the principal ingredient in the medicine, and upon the wording of the permit from the Ministry of Health—that is, whether it reads "upon doctor's prescription," or "freely." There are no other restrictions on the sale of patent medicines.

It is not necessary to print the formula in newspaper advertisements, but it should appear on the label, be inclosed with the patent medicine, or given to the druggists selling the medicine. While at the present time it is not necessary to print the weight of contents on the labels, it is believed that such will be the case when new rules, which are now under consideration, are adopted.

Under the constantly changing conditions it is impossible to state at what price medicines are sold in Czechoslovakia. Before the war, they usually sold at 1 to 3 crowns (crown equals $0.2026). Patent medicines retailing at $0.50 or $1 would ordinarily find no market.

Because of the humidity of the atmosphere at certain seasons, powder preparations of some kinds of materials put up in paper or cardboard boxes might not keep. A foreign manufacturer can not distribute free samples direct to the public through the mail. The customhouse authorities will not release medicines sent to individuals. The permit to import into Czechoslovakia is granted by the Ministry of Health only to a licensed druggist or wholesale house.

PHARMACEUTICAL DEVELOPMENT IN ITALY

Italy has adopted a novel method for encouraging the development of her pharmaceutical industry, at least that section of it which utilizes botanicals for preparing pharmaceutical products. The Ministry of Industry, Commerce and Labor has instituted a contest with prizes, open to all individuals or companies who are operating new factories or who have made new installations in factories already existent.

The prizes are of 40,000, 10,000 and two of 5,000 lira and the awards will be based on the following factors,—(a) production; (b) the kind and quality of products manufactured; (c) the processes employed; (d) the utilization of residues and by-products; (e) the costs of manufacture. A commission named by ministerial decree will judge the contest.

COLLEGE OF PHARMACY
GERRARD ST.

SELLER NOT LIABLE FOR DAMAGES

Federal Court Holds that Widow of Anthrax Victim Can Not Recover From Retailer of Shaving Brush

The following decision will be of interest to all druggists who carry shaving brushes as part of their stock:

"The United States Circuit Court of Appeals, Fifth Circuit, in reversing a judgment obtained by the plaintiffs, who were the widow and the minor children of one Lindsey, holds that they could not recover, in an action on a breach of warranty alleged to have been made by the defendant, a mail-order concern, in the sale of a shaving brush to Lindsey, it being averred in the complaint that the brush was charged with bacilli of anthrax, so that, when Lindsey undertook to shave himself and accidentally cut himself slightly with his razor, and then used the brush, he became inoculated with the germs of anthrax, and died from the effects of the disease.

"The court is of the opinion that the plaintiffs had no privity with the contract containing the alleged warranty, and hence no right of action. There was no survivorship to them under a breach of warranty directly to Lindsey himself. As to the contention that the action was really in tort, and based on the breach of duty by the defendant arising out of an alleged warranty contained in its catalogue, the court says that, if this were so, the right of recovery and the measure of recovery would be fixed by the Mississippi 'Wrongful Death Act,' as the use of the brush was in that state; and the court thinks that it was necessary, if the action was intended to be under that statute, that the complaint should contain some allegation of knowledge or notice on the part of the defendant that the brush contained anthrax germs, or some sufficient allegation of a negligent act or omission on the part of the defendant which caused the injury to Lindsey."

MULFORD COMPANY'S NEW HOME

The H. K. Mulford Company recently announced their removal to their new home in the Mulford Building, 632-640 North Broad street, Philadelphia, where they extend a cordial invitation to all physicians and pharmacists visiting that city to call upon them. In construction equipment, and arrangement, the new nine-story building represents the last word in modern improvements, its nearly ten acres of floor space permitting the executive offices and pharmaceutical laboratories to be housed under one roof, and the drugs, chemicals, etc., to be systematically passed from one department to the next and transformed step by step from the crude article into the refined, scientifically prepared, finished product.

The stock room for finished products covers about 36,000 square feet of floor space and contains about 50,000 feet of shelving. It also includes a complete cold storage plant which provides for keeping at a low temperature all biological products until the hour of shipment. With its improved facilities, the new home enables the H. K. Mulford Company to eliminate lost motion and to handle every order in the most expeditious manner consistent with accuracy.

PHARMACIES IN DEVASTATED FRANCE

The French journal, *Pharmacia*, reports that there are still many problems in connection with the re-establishment of pharmacies in the devastated regions. In the so-called "zone of combat" where devastation was practically complete, the re-entrance of pharmacists into their former fields is still impossible owing both to the difficulty of constructing proper quarters and the doubt as to the financial returns. This leaves many partially re-constructed villages without the much-needed services of a drug store and it is proposed that the construction of proper pharmacies in these locations be undertaken by some public agency. In the less damaged sections the problem is largely a professional one. The pharmacists who left the region regarded their former stands as theirs by right, and many have gone back only to meet with competition from younger men and from syndicates who entered the field before the return of the pre-war occupant. Other localities are without any service and the balance which was so carefully maintained before the war is far from restored.

WEIGHTS DESTROYED IN INDIANA

The report of I. L. Miller, State Food and Drug Commissioner of Indiana, published in the bulletin of the Indiana State Board of Health, states that during July there were inspected 1,249 food-handling establishments, including 319 groceries, 104 cream stations, 132 drug stores, 156 hotels and restaurants, 96 meat markets, 77 soft drink parlors, 80 confectioneries, and 22 ice cream factories. In connection with the drug store inspections, a large number of apothecaries scales were tested and many weights ordered destroyed because of their irregularity. Of the 132 drug stores, 2 were reported as "excellent," 81 as "good," 37 as "fair," and 12 as "poor." The proprietors of twelve drug stores were directed to make improvements or quit business. During the month condemnation notices were issued against ten drug stores, the reason for condemnation being "unsanitary conditions" in nine cases, and "improper construction" in six cases.

Commissioner Miller also reports that the State Food and Drug inspectors, operating in conjunction with the United States Bureau of Chemistry in the enforcement of Federal laws, participated in the collection of a large quantity of drug samples, which will be analyzed by the government for misbranding and adulteration. This activity centered principally in Indianapolis. During the month a quantity of crushed fruit was ordered withdrawn from the market because it contained benzoate of soda, an unlawful preservative under the food laws of Indiana.

STATE RULING ON "SPECIAL" FORMULAS

W. Bruce Philip, secretary of the Alameda County Pharmaceutical Association, Oakland, Calif., in a circular letter sent to members of his organization, calls attention to the fact that the California authorities have condemned samples of "elixir of iron, quinine and strychnine, special," which were not made according to the official formula for elixir of iron, quinine and strychnine. The California authorities demand that where a special formula is used differing from the official formula, the amount of iron, quinine and strychnine per fluidounce must be printed on the labels. So far as the California authorities are concerned, approval of the formula and label by the Prohibition Commissioner at Washington offers no protection in this particular.

RULING ON NARCOTICS IN TUBES

The Internal Revenue Department has ruled that "where a tube of morphine is prescribed by a reputable practitioner in the bona-fide treatment of disease and not for the purpose of evading the intentions and provisions of the Harrison narcotic law, the druggist is permitted under the law to dispense morphine in the original package, provided he affixes a label to the tube containing the data above set forth, and so destroys or obliterates the stamp as to prevent its further use." The ruling is also held to apply to original stamped packages of not only morphine, but any narcotic drug coming within the provisions of the Harrison law as amended.

CURRENS NOW A DIRECTOR

TURNER F. CURRENS

Turner F. Currens, manager of the New York Branch of the Norwich Pharmacal Company, was recently elected a director of the company to succeed the late President Stofer, whose death occurred in September last. Mr. Currens, although young in years, is well versed in Norwich policies, having been connected with the house for the past fifteen years, first as a salesman in Central Illinois territory and for the past eight years as manager of the New York branch. During that time he has increased his traveling sales staff more than five hundred per cent and the revenues of the branch accordingly. He has been compelled to move into larger business quarters several times, and his present quarters at 55-59 East 11th st. are already overcrowded.

Mr. Currens is a graduate of the St. Louis College of Pharmacy, a member of the American Pharmaceutical Association, the New York Drug Club, and of various other organizations in the drug and chemical field. His election to the directorate of the Norwich Pharmacal Company is a well-deserved recognition of his business ability and loyalty, and he is to be congratulated upon his advancement.

WHELPLEY ADDRESSES AMERICAN INDIANS

A prominent part in the ninth annual convention of the Society of American Indians, which was held at the Planters Hotel, St. Louis, Mo., on Nov. 15-19, was taken by Carl F. G. Meyer, of the Meyer Bros. Drug Co., who conveyed to the visitors greetings from the Publicity and Tourist Bureau of St. Louis, and Dr. H. M. Whelpley, who delivered an address on the "Original Landlords of America" (The First Indians). Among the entertainment features was a visit by the members to the Cahokia Mounds of Illinois near East St. Louis, given through the courtesy of the Convention Bureau and under the personal direction of Dr. Whelpley, who is chairman of the committee on archæology of the Missouri Historical Society.

The Junior Class of the Brooklyn College of Pharmacy held an organization meeting on November 9 and elected the following officers: President, Samuel Blank; vice-president, Isadore Wolis; secretary, Benjamin L. Gudes; treasurer, Nathan Goldberg.

DR. WALKER RESIGNS FROM M. I. "TECH."

Dr. William H. Walker, after 25 years of active service in teaching and research work in applied chemistry and chemical engineering at the Massachusetts Institute of Technology has tendered his resignation as director of the division of industrial co-operation and research, to take effect on Jan. 21, 1921. He will resume his consulting practice which was interrupted in 1917 by his joining the Army. He will be succeeded by Charles L. Norton, professor of industrial physics at the Institute and director of the research laboratory of applied physics. Prof. Norton has long been in close contact with a wide range of industries, and was early associated with the late Edward Atkinson in the pioneer work of fire prevention, and as engineer in charge of the insurance engineering experiment station.

DUCKWORTH ELECTED LIEUT. GOVERNOR

W. H. Duckworth, secretary and treasurer of the New Mexico Board of Pharmacy for the past four years, and owning and operating the Southwestern Drug Co. and the Elite Confectionery of Clovis, was elected Lieutenant Governor of New Mexico at the recent election. He ran on the republican ticket.

The Aroma Club of New York elected the following officers at the annual meeting held on Nov. 17: Edwin Sefton, of Harriet Hubbard Ayer Co., president; Julius Koehler, of Fritzsche Brothers, vice president; Irvin S. Zeluff, of Parfumerie Rigaud, treasurer; Joseph Byrne, secretary. Executive board—Frederick H. Ungerer, George Marceau, Irvin S. Zeluff, Edwin Sefton, Julius Koehler, Joseph Byrne.

WHITE & WYCKOFF'S CALENDAR OFFERS

White & Wyckoff enjoy an enviable reputation for the manufacture of high class papeteries, and this year they are offering three attractive assortments to druggists for their holiday trade in connection with their special calendar offer.

Assortment No. 705 consists of 72 boxes—ten different designs—six styles of envelopes, retailing from fifty cents to ninety cents per box, and with each assortment there are a number of attractive calendars which can be sold or given away to purchasers.

Assortment No. 710 consists of 24 two-quire cabinets and a calendar free with every box—retails for $1.50 per box giving the dealer a clean fifty per cent profit.

Assortment No. 726 consists of 72 boxes—seven styles of envelopes—five different colors, retailing from seventy-five cents to eighty-five cents per box.

Druggists who want an attractive line of high class stationery for their holiday trade should write at once to this manufacturer for a full descriptive circular of these Calendar Offers with prices. The address is White & Wyckoff Manufacturing Company, Holyoke, Mass.

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